

**STATE OF NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES**

**AIR RESOURCES DIVISION**

**CHAPTER Env-A 1200 PREVENTION, ABATEMENT, AND CONTROL OF  
STATIONARY SOURCE AIR POLLUTION**

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Statutory Authority: 125-C: 4, RSA 125-C: 6, II XIV, RSA 125-C: 11, I, RSA 125-C:  
12, IV

**PART Env-A 1201 INCINERATORS**

Env-A 1201.01 Classification of Wastes, Types 1-7, Defined by the Incinerator  
Institute of American Standards, Except Type 7.

(a) Type O. Trash consisting of mixture of highly combustible waste such as paper, cardboard cartons, wood boxes, and combustible floor sweepings, from commercial and industrial activities. The mixtures contain up to 10 percent by weight of plastic bags, coated paper, laminated paper, treated corrugated cardboard, oily rags, and plastic or rubber scraps. This type of waste contains 10 percent moisture, 5 percent incombustible solids, and has a heating value of 4718 calories per gram, 8500 BTUs per pound, as fired.

(b) Type 1. Rubbish, consisting of a mixture of combustible waste such as paper, cardboard cartons, wood scrap, foliage and combustible floor sweepings, from domestic, commercial and industrial activities. The mixture contains up to 20 percent by weight of restaurant or cafeteria waste but contains little or no treated papers, plastic or rubber waste. This type of waste contains 25 percent moisture, 10 percent incombustible solids, and has a heating value of 3608 calories per gram, 6500 BTUs per pound, as fired.

(c) Type 2. Refuse, consisting of an approximately even mixture of rubbish and garbage by weight. This type of waste is common to apartment and residential occupancy, consisting of up to 50 percent moisture, 7 percent incombustible solids and has a heating value of 2386 calories per gram, 4300 BTUs per pound, as fired.

(d) Type 3. Garbage, consisting of animal and vegetable wastes from restaurants, cafeterias, hotels, hospitals, markets and like installations. This type of waste contains up to 70 percent moisture, 5 percent incombustible solids, and has a heating value of 1388 calories per gram, 2500 BTUs per pound, as fired.

(e) Type 4. Human and animal remains, consisting of carcasses, organs and solid organic wastes from hospitals, laboratories, abattoirs, animal pounds and similar sources, consisting of up to 85 percent moisture, 5 percent incombustible solids, and having a heating value of 555 calories per gram, 1000 BTUs per pound, as fired.

(f) Type 5. By-product waste, consisting of gaseous, liquid, or semi-liquid, such as tar, paints, solvents, sludge and fumes, from industrial operations. Calorie, BTU, values shall be determined for the individual materials to be destroyed.

(g) Type 6. Solid by-product waste, such as rubber, plastic and wood waste, from industrial operations. Calorie, BTU, values shall be determined for the individual materials to destroyed.

(h) Type 7. Municipal sewage sludge waste, consisting of residue generated from the processing of raw sludge from a treatment plant.

Env-A 1201.02 Classification of Incinerators, Class I-VIII, Defined by the Incinerator Institute of American Standards. Classifications shall be as follows:

(a) Class I - Portable, packaged, completely assembled, direct fed incinerators, having not over 0.142 cubic meters, 5 cubic feet, storage capacity or 11.34 kilograms, 25 pounds, per hour burning capacity and suitable for Type 2 waste.

(b) Class IA - Portable, packaged or job assembled, direct fed incinerators, 0.142 to 0.426 cubic meters, 5 to 15 cubic feet, primary chamber volume; or a burning rate of 11.34 kilograms, 25 pounds, per hour up to, but not including, 34.02 kilograms, 75 pounds, per hour of Type 3 waste.

(c) Class II - Flue-fed, single chamber incinerators with more than 0.186 square meters, 2 square feet, burning area, suitable for Type 2 waste. This type of incinerator is served by one vertical flue functioning both as a chute for charging waste and to carry the products of combustion to the atmosphere.

(d) Class IIA - Chute fed, multiple chamber incinerators with more than 0.186 square meters, 2 square feet, burning area, suitable for Type 1, non-industrial, or Type 2 waste. This type of incinerator is served by a vertical chute for charging wastes from two or more floors above the incinerator and a separate flue for carrying the products of combustion to the atmosphere.

(e) Class III - Direct fed incinerators with a burning rate of 46.40 kilograms, 100 pounds, per hour or over, suitable for Type 0, Type 1 or Type 2 waste.

(f) Class IV - Direct fed incinerators with a burning rate of 34.02 kilograms, 75 pounds, per hour or over, suitable for Type 3 waste.

(g) Class V - Municipal incinerators suitable for Type 0, Type 1, Type 2 or Type 3 wastes or a combination of all four wastes and are rated in kilograms, tons, per hour or kilograms, tons, per 24 hours.

(h) Class VI - Crematory and pathological incinerators Type 4 waste.

(i) Class VII - Incinerators designed for specific by-product wastes, Type 5 or 6.

(j) Class VIII - Municipal sewage sludge incinerators suitable for Type 7 waste.

Env-A 1201.03 Division Approval of New Methods and Incinerator Designs. Env-A 1201 shall not be interpreted as prohibiting the division from approving the construction of any incinerator which shall introduce:

(a) New methods which may improve upon combustion and reduce air pollution.

(b) New design and engineering features which may improve upon combustion and reduce air pollution.

Env-A 1201.04 Visible Emission Standard for Incinerators. There shall not be discharged into the ambient air from any incinerator any air pollutant for a period or periods aggregation more than 3 minutes in any 1 hour which exhibits 20% opacity, No. 1 on the Ringelmann Smoke Chart, or greater as determined with test methods or with opacity monitors approved by the division. Visual opacity shall be determined in accordance with 40 CFR 60, Appendix A, reference method 9, as amended.

Env-A 1201.05 Emission Standards For Incinerators Constructed, Installed, or Substantially Altered After April 15, 1970.

(a) Incinerators of 90.72 kilograms, 200 pounds, per hour capacity and less shall not emit more than 0.675 grams per dry standard cubic meter, 0.3 grains of particulate matter per standard cubic foot, of dry flue gas, corrected to 12 percent carbon dioxide, without the contribution of carbon dioxide from auxiliary fuel.

(b) Incinerators of over 90.72 kilograms, 200 pounds, per hour capacity but less than 1814.4 kilograms, 4000 pounds, shall not emit more than 0.45 grams per dry standard cubic meter, 0.2 grains of particulate matter per standard cubic foot, of dry flue gas corrected to 12 percent carbon dioxide, without the contribution of carbon dioxide from auxiliary fuel.

(c) After April 30, 1974, new incinerators whose charging rate is 1814.4 kilograms, 4000 pounds, per hour or above, shall not be operated in such a manner as to discharge or cause the discharge into the ambient air of any gases which contain more than 0.18 grams per dry standard cubic meter, 0.08 grains of particulate matter per dry standard cubic foot, corrected to 12 percent carbon

dioxide, maximum 2-hour average.

(d) After April 20, 1974, new sewage sludge incinerators shall not be operated in such a manner as to discharge or cause the discharge into the ambient air of any gases which:

(1) Contain particulate matter in excess of 0.65 g/Kg dry sludge input, 1.30 lb/ton dry sludge input, determined by reference to 40 CFR 60, Subpart O.

(2) Exhibit 20% opacity, No. 1 on the Ringelmann Smoke Chart, or greater.

(3) Where the presence of uncombined water is the only reason for failure to meet the requirements of this part, such failure shall not be a violation of this section.

(e) Incinerators burning hazardous waste shall comply with all the requirements, which are herein incorporated by reference, contained in the EPA Regulations for Owners and Operators of Permitted Hazardous Waste Facilities, 40 CFR 264, Subpart O, including all revisions and amendments through April 1, 1983. The specific paragraphs under Subpart O, Incinerators, with which compliance is required are the following:

(1) 264.340 Applicability;

(2) 264.341 Waste Analysis;

(3) 264.342 Principal Organic Hazardous Constituents;

(4) 264.343 Performance Standards;

(5) 264.344 Hazardous Waste Incinerator Permits;

(6) 264.345 Operating Requirements;

(7) 264.347 Monitoring and Inspections.

Env-A 1201.06 Emission Standards for Incinerators Installed Prior to or On April 15, 1970.

(a) Incinerators having a capacity of 90.72 kilograms, 200 pounds, or less per hour shall not emit more than 0.675 grams per dry standard cubic meter, 0.3 grains of particulate matter per standard cubic foot, of dry flue gas corrected to 12 percent of carbon dioxide, without the contribution of carbon dioxide from

auxiliary fuel.

(b) Incinerators of over 90.72 kilograms, 200 pounds, per hour capacity shall not emit more than 0.45 grams per dry standard cubic meter, 0.2 grains of particulate matter per standard cubic foot, of dry flue gas corrected to 12 percent carbon dioxide, without the contribution of carbon dioxide from auxiliary fuel.

Env-A 1201.07 Emission Standards for Wood Waste Burners. These standards only apply to wood waste burners commonly known as tepees, wigwams, truncated cones and silos which are used only for the purpose of burning wood waste. Wood waste burners constructed, installed, reconstructed, or substantially altered after April 15, 1970 shall conform to the following emission standards:

(a) There shall not be discharged into the ambient air from any wood waste burner any air pollutant for a period or periods aggregating more than 3 minutes in any 1 hour in excess of 40 percent opacity, dark or darker in shade as that designated as No. 2 of the Ringelmann Smoke Chart.

(b) Particulate matter shall not be discharged into the ambient air from any waste burner which exceeds 0.675 grams per dry standard cubic meter, 0.3 grains per standard cubic foot, of dry flue gas corrected to 12 percent carbon dioxide, without contribution of carbon dioxide from an auxiliary fuel.

Env-A 1201.071 Hydrogen Chloride, HCL, Emission Standards for Incinerators.

(a) For installations completed on or after January 1, 1985, emission standards shall be applied to:

(1) Incinerator modules having a design throughput capacity of 4,000 pounds per hour, 48 tons/day, or greater;

(2) Incinerator facilities consisting of multiple modules, having a design throughput of 8,333 pounds per hour, 100 tons/day, or greater;

(3) Incinerators burning Type 5 and 6 waste, regardless of size.

(b) For installations completed prior to January 1, 1986, emission standards shall be applied to:

(1) Incinerator modules having a design throughput capacity of 4,000 pounds per hour, 48 tons/day, or greater;

(2) Incinerator facilities consisting of multiple modules, having a design throughput of 12,500 pounds per hour, 150 tons/day, or greater.

(c) HCL emission standards, based on a 3-run stack test using a method approved by the division are:

- (1) Average emission level of 50 ppm dv at 7% O<sub>2</sub> , or;
- (2) 90% HCL removal efficiency, whichever is less stringent.

(d) Exempted from the emission standards are:

- (1) Incinerators burning municipal sludge, Type 7 refuse;
- (2) Hazardous waste incinerators, subject to Env-A 1201.05 (e).

(e) Incinerators installed prior to January 1, 1986, shall be allowed a reasonable time period by which to come into compliance with the emission standard. The time period shall be determined on a case-by-case basis, but shall not exceed a period of 3 years.

Env-A 1201.08 Name Plate and Instruction Posting Requirements.

- (a) The manufacture's name plate shall be installed in a conspicuous place on the incinerator, giving model number, rated capacity, and the types of waste for which the device is designed.
- (b) Detailed instructions for the operation of each incinerator shall be posted in a conspicuous place near the device.

Env-A 1201.09 Trained and Competent Operator Required. The owner is responsible for having an operator, trained and competent in the operation of the incinerator, in charge of the stationary source.

Env-A 1201.10 Exemptions. Municipal wood waste burners are exempt from other provisions of Env-A 1201 provided that they comply with the provision established for incinerators as specified in Env-A 1201.04 and Env-A 1201.06 above.

Env-A 1201.11 Permit Requirements.

Incinerators operated in the state may be required to have permits as established by the Statewide Permit System in Env-A 600 and may be required to pay the permit fees as established by the Permit Fee System in Env-A 700.

**Part Env-A 1202 FUEL BURNING DEVICES**

Env-A 1202.01 Visible Emission Standard For Fuel Burning Devices Installed on or Prior to May 13, 1970. No person shall cause or allow visible emissions from fuel

burning devices installed on or prior to May 13, 1970 in excess of 40 percent opacity, darker in shade or appearances than that designated as No. 2 on the Ringelmann Smoke Chart.

Env-A 1202.02 Visible Emission Standard for Fuel Burning Devices Installed After May 13, 1970. No person shall cause or allow visible emissions from fuel burning devices installed after May 13, 1970 in excess of 20 percent opacity, darker in shade or appearance than that designated as No. 1 on the Ringelmann Smoke Chart.

Env-A 1202.03 Replacement of Fuel Burning Devices. When it becomes necessary to replace fuel burning devices installed on or prior to May 13, 1970, the owner or operator shall be required to operate within the limits established in Env-A 1202.02.

Env-A 1202.04 Exemption from Visible Emission Standards.

(a) The provisions of Env-A 1202.01 and Env-A 1202.02 above shall not apply to emissions during the building of a new fire, cleaning of fires, or soot blowing, the shade or appearance of which may be in excess of 40 percent opacity, No. 2 on the Ringelmann Smoke Chart, for a period or periods aggregating no more than 6 minutes in any 60 minutes. Those devices equipped with automatic soot blowers shall be permitted to be in excess of 40 percent opacity, for a period not to exceed 60 minutes in any 8-hour period.

(b) For fuel burning devices installed after May 13, 1970 with gross heat input equal to or greater than 250 million BTU/Hr., visible emissions shall not exceed 20 percent opacity, No. 1 on the Ringelmann Smoke Chart, except for 2 minutes in any one hour emissions may be as great as 40 percent opacity, No. 2 on the Ringelmann Smoke Chart.

Env-A 1202.05 Particulate Emission Standards for Fuel Burning Devices Installed on or Prior to May 13, 1970. No person shall cause or allow emissions of particulate matter from fuel burning devices installed on or prior to May 13, 1970 in excess of the rate set forth in the following equations:

(a) Devices with gross heat input less than  $10 \times 10^6$  BTU/Hr.,

$$E = 0.60;$$

(b) Devices with gross heat input equal to or greater than  $10 \times 10^6$  but less than  $10,000 \times 10^6$  BTU/Hr.,

$$E = 0.880 I^{0.166}; \text{ or}$$

(c) Devices with gross heat input equal to or greater than  $10,000 \times 10^6$  BTU/Hr.,

$$E = 0.19.$$

Where: E = Maximum Allowable Particulate Emission in lb/10<sup>6</sup> BTU

I = Maximum Gross Heat Input in 10<sup>6</sup> BTU/Hr.

These equations are shown graphically in Env-A 1202.08.

Env-A 1202.06 Particulate Emission Standards for Fuel Burning Devices Installed After May 13, 1970 But Before January 1, 1985. No person shall cause or allow emissions of particulate matter from fuel burning devices installed after May 13, 1970 but before January 1, 1985 in excess of the rates set forth in the following equation :

(a) Devices with gross heat input less than 10 x 10<sup>6</sup> BTU/Hr.

$$E = 0.60 ;$$

(b) Devices with gross heat input equal to or greater than 10 x 10<sup>6</sup> but less than 250 x 10<sup>6</sup> BTU/Hr.

$$E = 1.028 I^{-0.234} ; \text{ or}$$

(c) Devices with gross heat input equal to or greater than 250 x 10<sup>6</sup> BTU/Hr.,

$$E = 0.10 .$$

where: E = Maximum Allowable Particulate Emission in lb/10<sup>6</sup> BTU

I = Maximum Gross Heat Input in 10<sup>6</sup> BTU/Hr.

These equations are shown graphically in Env-A 1202.08.

Env-A 1202.07 Particulate Emission Standards for Fuel Burning Devices Installed on or After January 1, 1985. No person shall cause or allow emissions of particulate matter from fuel burning devices installed on or after January 1, 1985, in excess of the rates set forth in the following equations:

(a) Devices with gross heat input less than 100 x 10<sup>6</sup> BTU/Hr. ,

$$E = 0.30 ;$$

(b) Devices with gross heat input equal to or greater than 100 x 10<sup>6</sup> but less than 250 x 10<sup>6</sup> BTU/Hr.,



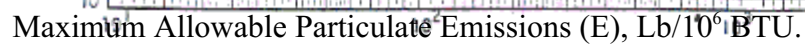
$$E = 0.15; \text{ or}$$

(c) Devices with gross heat input equal to or greater than  $250 \times 10^6$  BTU/Hr.

$$E = 0.10 .$$

Where: E = Maximum Allowable Particulate Matter Emission in  
lbs/ $10^6$  BTU

These equations are shown graphically in Env-A 1202.08.

Env-A 1202.08 Graph.

*Note : Text in the above graph reads as follows:*

*II - Devices Installed After May 13, 1970 but before January 1, 1985.*

Note : The maximum allowable emissions in lb/hr. can be obtained by multiplying  $E$  times  $I$ .

Env-A 1202.09 Particulate Emissions from Common and Multiple Stacks.

(a) When two or more fuel burning devices are connected to a common stack, the combined gross heat input of all devices connected to the stack shall be used to determine the allowable particulate emission from the stack. If a fuel burning device installed on or after January 1, 1985 is connected to a common stack which includes emissions from one or more existing fuel burning devices, the combination of devices connected to the stack shall be treated as a device installed on or after January 1, 1985 for the purposes of determining the allowable particulate emission from the stack.

(b) When one fuel burning device is connected to two or more stacks, the allowable particulate emission shall not exceed that allowable for the same device connected to one stack.

Env-A 1202.10 Continuous Emission Monitoring Systems. When the division requires the installation and operation of a continuous emission monitoring system on a fuel burning device, the system must be approved by the division prior to installation.

Env-A 1202.11 Permit Requirements. Fuel burning devices operated in the state may be required to have a permit as established by the Statewide Permit System in Env-A 600 and may be required to pay the permit fees as established in Env-A 700.

**PART Env-A 1203      PROCESS, MANUFACTURING AND SERVICE INDUSTRIES**

Env-A 1203.01 Industries Defined.

(a) "Process and manufacturing industries" means all sources engaged in the manufacture of goods and supplies, both finished and intermediate in nature whose operations involve emissions to the ambient air from process or manufacturing equipment or machinery directly or through stacks and exhaust and ventilating systems. Process and manufacturing industries include, but are not necessarily limited to, the following types of sources which are not specifically covered by other parts:

- (1) Chemical process industries;
- (2) Food and agricultural industries;
- (3) Metallurgical industries;
- (4) Mineral products industries;

- (5) Pulp and paper industries;
- (6) Petroleum refining and petrochemical operations; and
- (7) Wood processing operations and industries.

(b) "Service industries" means all stationary sources engaged in supplying services, whose operations involve emissions to the ambient air from various equipment and apparatus, directly or through stacks and exhaust and ventilating systems. Examples of service establishments include, but are not necessarily limited to the following:

- (1) Dry cleaning establishments;
- (2) Printing establishments;
- (3) Commercial wholesale and retail establishments;
- (4) Hospitals, schools and other institutional establishments; and
- (5) Hotels, restaurants, theaters, sports arenas and similar establishments.

Env-A 1203.02 Particulate Matter Emission Standards. No person shall cause or allow the emission of particulate matter and fumes from any process, manufacturing or service industry into the ambient air in excess of the following amounts:

- (a) All process, manufacturing or service industries shall comply with the requirements of Env-A 1203.
- (b) If the process, manufacturing or service industry is emitting particulate matter which, because of its toxicity is further regulated by an effect factor from Env-A 1203.10, the required emissions as established by Table I are further reduced by the effects factor. When 2 or more elements or compounds are emitted from the same stack, the more stringent effects factor shall govern.

Env-A 1203.03 Gaseous Emission Standards.

- (a) No person shall cause or allow the emission of gases from any process or manufacturing or service industry into the ambient air in excess of those quantities which are compatible with the achievement of ambient air quality standards for sulfur dioxide, nitrogen oxides, hydrocarbons, ozone and lead as specified in Env-A 300 and for other gases to be specified in future parts.
- (b) The control of volatile organic compounds shall be accomplished to achieve the ozone, O<sub>3</sub>, standard.

Env-A 1203.04 Acid Mists Emission Standards. No person shall cause or allow the emission of acid mists from stationary industrial, commercial or residential sources in excess of those specified on Env-A 1203.11.

Env-A 1203.05 Visible Emission Standard. Except during periods of start-ups and warm-ups, no person shall cause or allow the fugitive or stack emission of air pollutants in excess of 20 percent opacity, No. 1 on the Ringelmann Smoke Chart, excluding water vapor for any process, manufacturing and service industry subject by definition unless otherwise controlled by other effective parts.

Env-A 1203.06 Compliance Schedules. Owners or operators of existing stationary sources unable to comply with the preceding sections shall submit to the division, prior to December 31, 1972, a compliance schedule delineating the progressive steps required to bring these sources into compliance with this part, on or before December 31, 1973. Owners or operators of existing sources unable to comply with Env-A 1203.05 shall submit to the division, prior to October 31, 1979, a compliance schedule delineating the progressive steps required to bring these stationary sources into compliance with this part on or before October 31, 1980.

Env-A 1203.07 Exemptions. Those process, manufacturing and fuel burning devices, or other sources of gaseous and particulate matter covered specifically by other parts shall be controlled by those parts or sections as applicable.

Env-A 1203.08 Permits Required.

(a) Devices within process, manufacturing, and service industries operated in the state may be required to have permits as established by the Statewide Permit System in Env-A 600 and may be required to pay the permit fees as established by the Permit Fee System in Env-A 700.

Env-A 1203.09 Table No. 1.

TABLE 1		
Process Weight Rate (lbs/hr.)	Devices Installed After Feb 18, 1972 Emission Rate (lbs/hr.)	Devices Installed Prior to or on Feb. 18, 1972 Emission Rate (lbs/Hr.)
50	0.36	0.43
100	0.55	0.68
500	1.53	1.99
1,000	2.58	3.17
5,000	7.58	9.35

10,000	12.0	14.85
20,000	19.2	23.62
60,000	40.0	49.31
80,000	42.5	51.03
120,000	46.3	55.55
160,000	49.0	58.88
200,000	51.2	61.53
1,000,000	69.0	82.75
2,000,000	77.6	93.11

Interpolation of the data in Table 1 for the process weight rates up to 60,000 lbs/hr. shall be accomplished by the use of the equations:

$E = 4.10 p^{0.67}$  p less than or equal to 30 tons/hr. Devices Installed After Feb. 18, 1972.

$E = 5.05 p^{0.67}$  p less than or equal to 30 tons/hr. Devices Installed Prior to or on Feb. 18, 1972.

Interpolation and extrapolation of the data for process weight rates in excess of 60,000 lbs/hr. shall be accomplished by use of the equations:

$E = 55.0 p^{0.11} - 40 p$  greater than 30 tons/hr. Devices Installed After Feb. 18, 1972.

$E = 66.0 p^{0.11} - 48 P$  greater than 30 tons/hr. Devices Installed Prior to or on Feb. 18, 1972.

where :

E = Emissions in pounds per hour

P = Process Weight Rate in tons per hour

Table 2  
EFFECTS FACTOR FOR PARTICULATE MATTER

MATERIAL		
A. All material not specifically listed here		1.0
B. Elements and their compounds of the basic elements		
(CAS Numbers)		
(7440-36-0)	Antimony	0.9
(7440-38-2)	Arsenic	0.9
(7440-39-3)	Barium	0.9
(7440-43-9)	Cadmium	0.2
(7440-47-3)	Chromium	0.2
(7440-48-4)	Cobalt	0.9
(7440-50-8)	Copper	0.2
(7440-58-6)	Hafnium	0.9
(7439-92-1)	Lead - Lead arsenate	0.3
(7580-67-8)	Lithium hydride	0.04
(7723-14-0)	Phosphorus	0.2
(7782-49-2)	Selenium	0.2
(7740-22-4)	Silver	0.1
(13494-80-9)	Tellurium	0.2
(7440-28-0)	Thallium	0.2
(7440-61-1)	Uranium (soluble)	0.1
(7440-61-1)	Uranium (insoluble)	0.4
(7440-62-2)	Vanadium	0.2
(1314-13-2)	Zinc Oxide	0.8

(1314-22-3)		
(7440-41-7)	Beryllium	Not more than 10 grams of beryllium over a 24-hour period. The operator may elect to meet the ambient air concentration of 0.01 ug/m <sup>3</sup> averaged over a 30-day period and measured in the vicinity of the source.
(7439-97-6)	Mercury	Not more than 2300 grams per 24-hour period. The provisions of this subpart are applicable to those stationary sources which process mercury ore or recover mercury and to those which use mercury cathode cells to produce chlorine gas and alkali metal hydroxide.
C. Mineral material and miscellaneous substances		
(CAS Numbers)		
(7631-86-9)	Silica (crystalline)	0.4
(1332-21-4)	Asbestos	As specified by the EPA in Vol 38, #66, Federal Register, Friday, April 6, 1973.

Env-A 1203.11 Table No. 3.

Table 3  
LIMITATION OF EMISSIONS OF ACID MISTS

(Allowable Stack Gas Concentrations in Milligrams  
Per Dry Cubic Meter at Standard Conditions)

Sulfuric, CAS 7664-93-9, Acid Mist (except as provided in note 1 below)	35
Nitric Acid, CAS 7697-37-2, Mist and/or Vapor (except as provided in note 2 below)	70
Hydrochloric Acid, CAS 7647-01-0, Mist and/or Vapor	210
Phosphoric Acid, CAS 7664-38-2, Mist and/or Vapor	3

Note 1 On or after February 18, 1972 no owner or operator of a sulfuric acid production unit shall discharge or cause the discharge into the ambient air



of sulfur dioxide, CAS 7446-09-50, in excess of 2 kg. per metric ton, 4 lbs. per ton, of acid produced maximum 2-hour average.

Note 2 On or after February 18, 1972 no owner or operator of a nitric acid production unit shall discharge or cause to be discharged into the ambient air nitrogen oxides which are in excess of 1.5 kg. per metric ton, 3 lbs. per ton, of acid produced maximum 2-hour average expressed at NO<sub>2</sub> or 10 percent opacity or greater.

## **PART Env-A 1204 STATIONARY SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOCs)**

Env-A 1204.01 Purpose. The purpose of this part is to describe provisions regarding the implementation of reasonably available control technology on certain VOC-emitting sources located in New Hampshire. This is required by the division in order to comply with its nonattainment plan pursuant to sections 172(c)(1) and 182(b)(2) of the Act.

Env-A 1204.02 General Applicability.

(a) This part shall apply to designated processes and devices in the following source categories which have the potential to emit certain amounts of non-exempt VOC compounds:

- (1) Can coating;
- (2) Paper, fabric, film, or foil substrate coating;
- (3) Vinyl or urethane substrate coating;
- (4) Metal furniture coating;
- (5) Magnetic wire insulation coating;
- (6) Metal coil coating;
- (7) Miscellaneous metal parts and products coating;
- (8) Plastic parts coating;
- (9) Wood furniture, burial caskets, and gunstock coating;
- (10) Rotogravure and flexographic printing;
- (11) Offset lithographic printing;

- (12) Fixed-roof storage tanks;
- (13) External floating roof tanks;
- (14) Bulk gasoline loading terminals;
- (15) Bulk gasoline plants;
- (16) Petroleum refineries;
- (17) Cutback and emulsified asphalt plants;
- (18) Solvent metal cleaning;
- (19) Miscellaneous stationary VOC sources; and
- (20) Multicategory stationary VOC sources.

(b) The section within this part pertaining to each source category listed above shall define the specific applicability of each category of sources and provide such applicable sources with the requirements of this program.

(c) Sources with coating, printing, or miscellaneous devices or processes that meet or exceed the relevant RACT applicability criteria in the applicable section within this part, or that are unclassifiable, shall be exempt from the provisions of the applicable compliance section in this part provided that all of the following conditions are met:

- (1) The combined theoretical potential VOC emissions from all process operations do not exceed the relevant RACT applicability threshold for any consecutive 12-month period by enforceable permit;
- (2) The source has been and remains in full compliance with the conditions of the permit since the date of issuance or the terms of any consent decree entered into by the division or by EPA, or pursuant to any court order;
- (3) The actual VOC emissions of the source, or from all operations associated with the applicable VOC category have not exceeded the RACT applicability threshold specified in the applicable paragraph in any calendar year since December 31, 1988, except as specified in (g), below;
- (4) The enforceable permit shall contain testing provisions as necessary to demonstrate compliance with permit restrictions, pursuant to Env-A 800;
- (5) The enforceable permit shall contain recordkeeping and reporting provisions as necessary to demonstrate compliance with the permit restrictions, pursuant to Env-A 901.04 and Env-A 901.05, respectively;

and

(6) The source has submitted the compliance plan required by this part.

(d) Minor core activities of non-exempt VOCs at a stationary source, as defined in Env-A 1204.03, having total aggregate emissions of not more than 5 tons per year, combined for all classifiable and unclassifiable processes and/or devices, shall be excluded from the provisions of this part.

(e) Testing and research activities, as defined in Env-A 1204.03, performed at coating, printing, or miscellaneous sources shall be excluded from the provisions of this part provided that the combined non-exempt VOC emissions from such activities do not exceed 5 tons per calendar year.

(f) Once a stationary source becomes subject to the appropriate section requirements of this part, the source shall remain subject to those requirements even if its emissions later fall below the relevant RACT applicability threshold, except as provided in (g), below.

(g) Any stationary coating, printing, miscellaneous or multicategory source which has reduced its actual VOC emissions below the RACT applicability threshold prior to May 31, 1995, shall be eligible for exemption from the provision of (f), above, provided that both of the following conditions are met:

(1) The owner or operator can demonstrate that the actual VOC emissions occurring in the consecutive 12-month period after said reduction was implemented are no more than 80% of the relevant RACT applicability threshold; and

(2) The owner or operator accepts an enforceable permit containing restrictions which limit the combined actual VOC emissions, during any 12-month period, from the source, or all process operations associated with a specific classifiable process, below the specified percentage of the RACT applicability threshold.

Env-A 1204.03 Definitions. For the purposes of this part the following definitions shall apply:

(a) "Actual VOC emissions" means the total non-exempt VOCs actually emitted by a source, process or device in a specified time period.

(b) "Actual VOC emission rate" means the mass of non-exempt VOCs actually emitted by a source, process or device per unit throughput, where said throughput is usually stated in terms of either solvent usage or other quantifiable production variable.

(c) "Add-on controls" means equipment or techniques, such as incineration,

which is used to collect, remove, and/or destroy organic vapors from a gas stream before the vapors are released into the ambient air.

(d) “Asphalt” means a dark-brown to black cementitious solid, semisolid, or liquid, which is predominately comprised of various mixtures of hydrocarbons, including bitumens, crude petroleum or tars, which occur naturally or which are obtained as residues from refining petroleum.

(e) “Bubble” means a technique of aggregating certain emissions so as to impose controls that are more stringent than RACT-level on certain emitting units at a particular source, while simultaneously imposing controls that are less stringent than RACT-level on other emitting units, including the option of no controls on such units.

(f) “Bulk gasoline plant” means a gasoline storage and distribution facility with a daily throughput of less than 76,000 liters (20,000 gallons) which receives gasoline from bulk terminals by trailer transport, which gasoline is stored in tanks and subsequently dispensed via account trucks to local farms, businesses and service stations.

(g) “Bulk gasoline terminal” means a gasoline storage facility which:

- (1) Receives gasoline from refineries primarily by pipeline, ship, or barge;
- (2) Delivers gasoline to bulk gasoline plants, to commercial or retail accounts within or outside New Hampshire, primarily by tank truck; and
- (3) Has a daily throughput of 76,000 liters (20,000 gallons) or more of gasoline based on any consecutive 30-day period during the ozone season.

(h) “Capture and control system” means a system to capture and convey VOC emissions released from VOC-emitting devices to add-on control equipment that destroys, recovers, or otherwise removes VOC, to permanently reduce the emission of VOC to the air.

(i) “Capture efficiency (CE)” means the weight per unit time of VOC entering a capture system and delivered to add-on control equipment divided by the weight per unit time of total VOC emitted by an emission source of VOC, expressed as a percentage.

(j) “Classifiable process or device” means any process or device covered under one of the VOC categories listed in Env-A 1204.02 .

(k) “Clear coat” means a coating which lacks color and opacity or is transparent, and uses the surface to which it is applied as a reflectant base or undertone color;

(l) “Coating” means a protective, decorative or functional film applied in a thin layer to a surface or impregnated into a substrate. This term includes but is not

limited to paints, varnishes, sealants, adhesives, inks, maskants, and temporary protective coatings such as lacquers or enamels and films applied to paper, plastics or foil.

(m) "Coating line" means a series of one or more apparatus or operations which include a coating applicator, any associated drying area, flash-off area and/or oven wherein a surface coating is applied, dried and/or cured.

(n) "Cold cleaning" means the batch process of degreasing metal surfaces by spraying, brushing, flushing or immersion in a cold VOL solvent. Wipe cleaning is not included in this definition.

(o) "Cold VOL solvent" means a VOL solvent maintained below its boiling point during use in solvent metal cleaning.

(p) "Condensate" means any VOL, separated from the gas or vapor phase, that condenses due to changes in temperature and/or pressure and remains liquid at standard conditions.

(q) "Compliant coating" means a coating material that meets the applicable VOC RACT emission rate standard in Env-A 1204.09 through Env-A 1204.17.

(r) "Conventional air spray" mean a spray coating method in which the coating is atomized by mixing it with compressed air at an air pressure greater than 10 pounds per square inch gauge at the point of atomization.

(s) "Conveyorized degreasing" mean the continuous process of cleaning and removing soils and/or grease from metal surfaces by operating a conveyor system with either cold or vaporized VOL solvents.

(t) "Core activities" means operations which are central to the manufacturing and/or business of the source. Core activities exclude all non-core activities listed in (ba), below.

(u) "Crude oil" means a naturally occurring mixture that:

(1) Consists of hydrocarbons and/or sulfur, nitrogen, and/or oxygen derivatives of hydrocarbons; and

(2) Is liquid at standard conditions.

(v) "Cutback asphalt" means asphalt cement which has been liquefied by blending with petroleum solvents, which solvents evaporate upon exposure to atmospheric conditions leaving the asphalt cement to perform its function.

(w) "Designated processes and devices" means processes and devices:

(1) That are covered under a classifiable category; and

(2) For which there are specified emission rate limits or control techniques.

(x) “Emulsified asphalt” means an emulsion of asphalt cement and water which contains a small amount of an emulsifying agent, forming a heterogeneous, or normally immiscible, system in which the water forms the continuous phase of the emulsion, and minute globules of asphalt form the discontinuous phase.

(y) “Equivalent substitute control technique” means a substitute control technique that results in VOC emission reductions or, for an associated test method, a level of accuracy equal to or greater than that achieved by the specified control technique(s) for the applicable VOC category.

(z) “Exempt Volatile Organic Compound (Exempt VOC)” means any VOC excluded or proposed to be excluded by EPA from its list of compounds exempt or proposed to be exempt from its definition of VOCs on the basis of negligible photochemical reactivity, including and limited to the following:

- (1) Methane (CAS 74-82-8);
- (2) Ethane (CAS 74-84-0);
- (3) 1, 1, 1-Trichloroethane (CAS 71-55-6) ;
- (4) Methylene Chloride (CAS 75-09-2);
- (5) Trichlorofluoromethane (CAS 75-69-4);
- (6) Dichlorodifluoromethane (CAS 75-1-8);
- (7) Chlorodifluoromethane (CAS 75-45-6);
- (8) Trifluoromethane (CAS 75-46-7);
- (9) Trichlorotrifluoroethane (CAS 76-13-1);
- (10) Dichlorotetrafluoroethane (CAS 76-14-2);
- (11) Chloropentafluoroethane (CAS 76-15-3);
- (12) Dichlorotrifluoroethane (CAS 306-83-2);
- (13) Tetrafluoroethane (CAS 811-97-2);
- (14) Dichlorofluoroethane (CAS 1717-00-6);
- (15) Chlorodifluoroethane (CAS 75-68-3);

- (16) Chlorotetrafluoroethane (CAS 2837-89-0);
- (17) Pentafluoroethane (CAS 354-33-6);
- (18) Tetrafluoroethane (CAS 359-35-3);
- (19) Trifluoroethane (CAS 420-46-2);
- (20) Difluoroethane (CAS 75-37-6);
- (21) Parachlorobenzotrifluoride (PCBTF) (CAS 98-56-6);
- (22) Perchloroethylene (perc) (CAS 127-18-4);
- (23) Acetone;
- (24) All classes of volatile methyl siloxanes which are listed in Federal Register, Vol. 59, No. 192, Table 1, p. 50694, dated October 5, 1994; and
- (25) The following 4 classes of Perfluorocarbon compounds only:
  - a. Cyclic, branched, or linear, completely fluorinated alkane;
  - b. Cyclic, branched; or linear, completely fluorinated ethers with no unsaturation;
  - c. Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturation; and
  - d. Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(aa) "External floating roof" means a storage vessel cover in an open top tank consisting of a double deck or pontoon single deck which rests upon and is supported by the VOL being contained and is equipped with a closure seal to close the space between the roof edge and tank shell.

(ab) "Fabric coating" means the coating of a textile substrate including, but not limited to, application by impregnation or saturation by the use of a knife, roll or rotogravure coater to impart properties that are not initially present, such as strength, stability, water or acid repellency, or appearance.

(ac) "Federally-enforceable document" means:

- (1) A federally-approved division rule as defined in 40 CFR 51;
- (2) A permit, license, or order issued by the division pursuant to a federally-approved regulation;

(3) A permit or order issued by the EPA; or

(4) A regulation promulgated by EPA and codified under 40 CFR 60 or 40 CFR 61.

(ad) “Flexographic printing” means the application of ink in the form of characters, designs and/or pictures to a substrate by means of a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastomeric materials.

(ae) “Gasoline” means any petroleum distillate or petroleum distillate alcohol blend having a Reid vapor pressure of 27.6 kPa (4 pounds per square inch) or greater that is used as a fuel for internal combustion engines.

(af) “Gunstock coating” means the surface coating of wooden components of firearms, which components are exposed to the environment and subject to functional handling by the end user.

(ag) “High solids coatings” means coatings with solids content of 70% or more by weight.

(ah) “Hot VOL solvent” means a VOL solvent maintained above its boiling point during use in solvent metal cleaning.

(ai) “Knife coating” means the application of a coating material to a substrate by means of drawing the substrate beneath a knife or other type of blade that spreads the coating evenly over the entire width of the substrate.

(aj) “Lease custody transfer” means the transfer of produced crude oil or condensate, after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

(ak) “Limited at all times” means that the VOC emissions from a source or device, as measured or calculated in accordance with the applicable method(s) and associated averaging times prescribed in Env-A 803, does not exceed the specified emission rate limit for the subject VOC category or subcategory during the RACT-applicable life of said source or device.

(al) “Lithography” means a planar printing process where the image and non-image areas are chemically differentiated; the image area is oil receptive and the non-image area is typically water receptive.

(am) “Low solvent coating” means coatings which contain less organic solvent than the conventional coatings used by the industry. Low solvent coatings include water-borne, higher solids, electrodeposition and powder coatings.

(an) “Low-VOC emitting process” means a process that results in VOC emission



rate reductions equivalent to a RACT level add-on control system.

(ao) "Magnetic wire insulation coating" means a coating in which an electrically insulated varnish or enamel is applied onto the surface of wire for use in electrical machinery.

(ap) "Maximum design conditions" means either:

(1) Operational conditions that are based on the design capacity or maximum production capacity of the source; or

(2) The maximum capacity of a stationary source to emit non-exempt VOCs under its physical or operational design which conditions include, for coating and graphics arts sources, those coatings or inks with the highest annual average non-exempt VOC content in actual use by such sources during either:

a. The 2 calendar years immediately prior to the effective date of this rule; or

b. A period of 24 consecutive selected calendar months approved by the director.

(aq) "Metal coil coating" means the surface coating of any continuous metal strip with thickness of 0.15 mm (0.006 in.) or more that is packaged in a roll or in helical form.

(ar) "Metal degreasing" means the removal of grease and/or grease-bearing soils from metal surfaces using liquid or vapor means.

(as) "Metal furniture coating" means the surface coating of any furniture made of metal or any metal part which will be assembled with other metal, wood, fabric, plastic or glass parts to form a furniture piece.

(at) "Minor core activity" means any core activity at a stationary source for which the aggregate non-exempt actual VOC emissions from all processes and devices associated with said activity do not exceed either of the following:

(1) The RACT applicability emissions threshold for any category in Env-A 1204.09 through Env-A 1204.17; or

(2) A total of 5 tons per year.

(au) "Miscellaneous metal parts coating" means the coating of any metal substrate except for the following products:

(1) Automobiles and light-duty trucks, including automobile refinishing and customized top coating;

- (2) Metal cans;
- (3) Flat metal sheets and strips in the form of rolls or coils;
- (4) Magnet wire for use in electrical machinery;
- (5) Metal furniture;
- (6) Exterior portions of airplanes;
- (7) Exterior portions of marine vessels.

(av) “Miscellaneous stationary VOC source” means any stationary source of VOCs which has at least one unclassifiable core process or device but which may also include any number of classifiable core processes or devices.

(aw) “Modified control techniques” means techniques for reducing VOC emissions to the atmosphere that are less stringent than the control techniques prescribed in the applicable section of this part.

(ax) “Modified emission rate limits” means VOC RACT emission rate limits that are less stringent than the limits on actual emission rates prescribed in the applicable section of this part.

(ay) “Multicategory stationary VOC source” means any stationary source of VOCs which, excluding non-core activities as enumerated in (ba), below, has either:

- (1) At least 2 classifiable processes or devices in dissimilar VOC categories; or
- (2) At least 1 classifiable processes or devices and at least 1 unclassifiable processes or devices.

(az) “Non-compliant coating” means a coating material that exceeds the applicable VOC RACT emission rate standard in Env-A 1204.09 through Env-A 1204.17.

(ba) “Non-core activities” means activities conducted at the source that are not directly related to the central manufacturing and/or business purpose of the source, including but not limited to:

- (1) Use of office machines, including copying and duplication activities;
- (2) Interior maintenance activities and the devices and supplies used therein, such as:
  - a. Janitorial and general building maintenance;

b. Welding, gluing, and soldering related to building and machine maintenance; and

c. Painting and cleaning process devices, except:

1. VOL metal degreasing operations subject to regulation under this part; or

2. Any process equipment cleaning or maintenance activity subject to regulation under this part;

(3) Exterior maintenance activities and the equipment and supplies used therein, such as repainting, roofing, and blasting, and general grounds maintenance, including lawncare; and.

(4) Non-commercial maintenance and operation of non-commercial laboratory and other activities to the extent that such activities are not directly related to the primary production process or commercial business activities normally conducted at the source.

(bb) “Non-exempt VOC” means any VOC which is not an exempt VOC, as listed in (z), above.

(bc) “Offset” means a printing process that transfers the ink film to an intermediary surface, which in turn transfers the ink film to a printing substrate.

(bd) “Open-top vapor metal degreasing process” means the batch process for degreasing metal surfaces by condensing hot VOL solvent vapor onto colder metal parts.

(be) “Paper coating” means:

(1) Coating of paper or pressure sensitive tape, regardless of substrate material, by means of:

a. Direct surface application; or

b. Impregnation or saturation by the use of roll, knife or rotogravure coating;

(2) Related web coating processes on plastic film; or

(3) Decorative coatings on metal foil.

(bf) “Petroleum refinery” means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants or other products through distillation, cracking, extraction, or reforming of unfinished petroleum derivatives.

(bg) “Plastic part coating” means the surface coating of a component of an end-use product, which component is made from a substance that has been formed from resin through the application of pressure and/or heat.

(bh) “Prime coat” means the first of 2 or more films of coating applied to a substrate.

(bi) “RACT applicability criterion” means the design, operational, or other characteristics of a source, process or device which define the conditions at which said source, process or device becomes RACT applicable.

(bj) “RACT applicability threshold” means the theoretical potential emissions of non-exempt VOCs at which a coating, printing, miscellaneous or multicategory source, process or device becomes RACT applicable.

(bk) “RACT applicable classifiable process or device” means any classifiable process or device meeting the applicability provisions of the relevant VOC category in Env-A 1204.09 through Env-A 1204.27.

(bl) “RACT applicable miscellaneous stationary VOC source” means any miscellaneous stationary VOC source meeting the applicability criteria of Env-A 1204.27(a).

(bm) “RACT applicable multicategory stationary VOC source” means any multicategory stationary VOC source meeting the applicability criteria of Env-A 1204.27(a).

(bn) “Refinishing” means the repainting of used equipment.

(bo) “Roll coating” means the application of a coating material to a substrate by means of hard rubber, elastomeric, or metal rolls.

(bp) “Rotogravure coating” means the application of a coating material to a substrate by means of a roll coating technique in which the pattern to be applied is etched on the coating roll. The coating material is picked up in these recessed areas and is transferred to the substrate.

(bq) “Rotogravure printing” means the application of ink in the form of characters, designs and/or pictures to a substrate by means of a roll printing technique that involves an intaglio or a recessed image area in the form of cells.

(br) “Solvent metal cleaning” means the process of degreasing metal using cold cleaning, open top vapor or conveyORIZED degreasing methods.

(bs) “Specialty coating” means a coating used for products required to meet non-standard performance specifications. These include adhesion primers, resist coatings, soft coatings, reflective coatings, electrostatic prep coatings, headlamp lens coating, ink pad printing coatings, stencil coatings, vacuum metalizing

coatings, and gloss reducers.

(bt) “Specified control technique” means the control technique(s) specified in the applicable section of this part for a particular RACT applicable, classifiable VOC source, process or device.

(bu) “Specified emission standard” means the emission standard specified in the applicable section of this part for a particular RACT applicable, classifiable VOC source, process or device.

(bv) “Submerged fill” means a tank truck loading process whereby the gasoline or petroleum product is loaded from a nozzle submerged at or near the bottom of the liquid column.

(bw) “Substitute control technique” means a technique proposed by a facility that differs from the specified control technique for controlling VOC emission for the applicable VOC category and which may include VOC emission control equipment, technology, operational and maintenance procedures and/or testing procedures.

(bx) “Testing and research activities” means activities that are:

(1) Conducted for the purpose of:

- a. Determining product quality and/or customer acceptance;
- b. Improving product quality; or
- c. Improving an existing process;

(2) Not conducted for the direct manufacture of products for commercial sale; and

(3) Conducted at the same site as the source’s core activities.

(by) “Theoretical potential VOC emissions (TPEs)” means the theoretical emissions of non-exempt VOCs that:

(1) Would occur prior to the application of add-on controls that are required by a federally enforceable regulation or document issued prior to January 1, 1990; and

(2) Are based on one of the following:

- a. Continuous operation of 8760 hours per year under maximum design conditions, as defined in this section;
- b. Hours of operation that are limited by permit conditions, under

maximum design conditions for the stationary source; or

c. Hours of operation and/or design and/or process conditions, including operating rates, that are limited by permit conditions.

(bz) “Topcoat” means the final film or series of films of coating applied to a substrate in an operation consisting of two or more coats.

(ca) “Touch-up and repair” means the application of finishing materials to cover minor imperfections.

(cb) “Unclassifiable process or device” means a VOC-emitting process or device which does not meet the definitional criteria of at least one of the categories in Env-A 1204.02(a)(1) through (a)(18).

(cc) “Vinyl or urethane substrate coating” means applying a decorative, protective or functional coating or ink on vinyl or urethane substrates, including vinyl or urethane coated fabric.

(cd) “VOC category” means any process, device or operation listed in Env-A 1204.02(a)(1) through (a)(18), irrespective of whether such processes, devices or operations meet the applicability criteria of Env-A 1204.09 through Env-A 1204.26.

(ce) “VOC-emitting device” means any equipment, building, or activity that results in the emission of VOCs, either through a duct or stack or as fugitive emissions.

(cf) “VOC subcategory” means any process, device or operation subordinate to one of the categories listed in Env-A 1204.02(a)(1) through (a)(18), above, for which a VOC RACT standard has been prescribed in the applicable category in Env-A 1204.09 through Env-A 1204.26.

(cg) “Volatile organic liquid (VOL)” means any organic liquid which is capable of emitting non-exempt VOC compounds into the atmosphere.

(ch) “Wood furniture coating operation” means the surface coating of products that belong to the same wood furniture industrial grouping which grouping includes the following standard industrial classification (SIC) codes: 2434, 2511, 2512, 2517, 2519, 2521, 2531, 2541, and 2599.

#### Env-A 1204.04 Determination of Emissions.

(a) The determination of TPEs shall include all emissions from core activities, as defined in Env-A 1204.03.

(b) The determination of actual emissions for the purpose of determining compliance with the applicable rule or establishing exceptions to applicability, as

provided in Env-A 1204.02, shall be as prescribed in Env-A 621.

(c) For coating sources that use add-on control equipment or a bubble to achieve compliance, the emission rate limit shall be determined on a solids basis, as specified in (d), below, using the following terms:

(1) "S" mean the VOC emission rate limit in terms of lb/gal (kg/l) of coating solids;

(2) " $d_A$ " means the actual mass density of the applied surface coating formulation in terms of lb/gal (kg/l); and

(3) " $E_c$ " means the emission rate limit prescribed for the applicable coating category, subcategory or process as calculated on a coatings basis, in terms of lb VOC/gal (kg/l) of coating, as applied to the substrate.

(d) To calculate the emission rate limit S, subtract the quotient of  $E_c$  and  $d_A$  from one and divide the result into  $E_c$ , as in the formula below:

$$S = E_c (1 - E_c d_A)$$

(e) Sources using a bubble approach to comply with the provisions of this part shall employ the procedure specified in Env-A 613.

#### Env-A 1204.05 RACT Order Application and Issuance Procedures.

(a) For the purpose of this section, the following definitions shall apply:

(1) "Determination of insufficiency" means a written determination by the division that the documentation submitted by a source applicant, pursuant to the requirement for a feasibility study of RACT options as required by (b) and (c), below, is inadequate for the division to issue a RACT order.

(2) "Determination of sufficiency" means a written determination by the division that the documentation submitted by a source applicant, pursuant to the requirement for a feasibility study of RACT options as required by (b) and (c), below, is adequate for the division to issue a RACT order.

(b) The following persons shall comply with the applicable provisions of (c), below, and obtain a RACT order from the division in accordance with the provisions of (d), (e) or (f), below, whichever paragraphs are applicable:

(1) Owners or operators of classifiable and RACT-applicable stationary sources seeking modified VOC RACT emission limits or control technology; and

(2) Owners or operators of RACT-applicable miscellaneous or multicategory stationary VOC sources seeking RACT compliance by

adopting control option 5 of Env-A 1204.27(c).

(c) The owner or operator or any stationary source meeting the criteria of either (b)(1) or (b)(2), above, shall submit the following to the division within 120 days of the effective date of this part:

(1) An inventory of all VOC-emitting devices and processes at the stationary source not exempt under the applicable provisions of Env-A 1204.02 or Env-A 1204.09 through Env-A 1204.27;

(2) The theoretical potential emissions of each VOC-emitting device or process identified pursuant to (c)(1), above;

(3) The estimated actual amount of non-exempt VOCs emitted, based on solvent throughput or units of production, from each VOC-emitting device or process at the stationary source not exempt under the applicable provisions of Env-A 1204.02 or Env-A 1204.09 through Env-A 1204.27, for the following time periods:

a. Daily average for calendar year 1990, or other year or consecutive 12-month period approved by the director in accordance with (e), below; and

b. Daily average during the ozone season for calendar year 1990, or other calendar year approved by the director in accordance with (e), below;

(4) A study of RACT control options study consisting of the following:

a. A detailed examination of the technical and economical feasibility of available VOC control techniques for all VOC-emitting devices or processes not exempt under the applicable provisions of Env-A 1204.02 or Env-A 1204.09 through Env-A 1204.27; and

b. The control option selected, stating emission limits, monitoring, recordkeeping and reporting procedures, and test methods to be used to demonstrate compliance;

(5) The amount of non-exempt VOC that is proposed to be controlled from each VOC-emitting device or process identified in (c)(1), above; and

(6) A schedule for implementation, containing the elements described in Env-A 1204.28(b)(2) and a demonstration of compliance consistent with the requirements of this part.

(d) For any source submitting a RACT order application pursuant to the applicable provision(s) of (b), above, the division shall:



(1) Issue to the source owner or operator within 60 days of receipt of documentation submitted pursuant to (c), above, an initial determination of sufficiency; or

(2) Issue to the source owner or operator within 60 days of receipt of documentation submitted pursuant to (c), above an initial determination of insufficiency, together with a request for all additional information necessary to issue a RACT determination for a modified emission rate limit, modified control technique, or an equivalent substitute control technique, as applicable.

(e) The director shall approve an alternative time period pursuant to (c)(3)a. or (c)(3)b., above, for which the source provides a demonstration that the applicable time periods specified therein are unrepresentative of the operation of the facility due to one or more of the following reasons:

(1) Add-on controls were installed during the calendar year 1990, or during the 1990 ozone season, as applicable that resulted in non-exempt VOC emission rate reductions of 40% or more of the average emission rate during the applicable time period immediately preceding the specified time period;

(2) Process or product changes were implemented during the calendar year 1990, or during the 1990 ozone season, as applicable, that resulted in non-exempt VOC emission rate reductions of 40% or more of the average emission rate during the applicable time period immediately preceding the specified time period; or

(3) The facility was not in existence or the applicable VOC-emitting processes or devices were not operational during any portion of calendar year 1990, or during any portion of the 1990 ozone season, as applicable; or

(4) The facility provides other adequate demonstration that the 1990 calendar year, or the 1990 ozone season, whichever is applicable, was unrepresentative of VOC-emitting facility operations.

(f) In the event that an initial determination of sufficiency is made, the division shall issue a final determination of sufficiency and present to EPA and the owner or operator of the affected source a proposed RACT order within 60 days of the initial determination of sufficiency containing:

(1) An inventory of all affected VOC-emitting devices or processes not exempt under the applicable provisions of Env-A 1204.02 or Env-A 1204.09 through Env-A 1204.27;

(2) Emission limits for all affected VOC-emitting devices or processes not exempt under the applicable provisions of Env-A 1201.02 or Env-A

1204.09 through Env-A 1204.27;

(3) A schedule requiring compliance with the RACT emission limits than contains the elements described in Env-A 1204.28(b)(2);

(4) Procedures for determining initial compliance with the approved modified emission rate limits or control technology;

(5) Procedures for assessing continuous compliance with the emission limits, if applicable; and

(6) Recordkeeping and reporting requirements in accordance with the provisions of Env-A 901.04 and Env-A 901.05, respectively.

(g) In the event that an initial determination of insufficiency is made, the division shall:

(1) Issue a final determination of sufficiency and present to EPA and the owner or operator of the affected source a proposed RACT order containing those items listed in (f)(1) through (f)(6), above, within 60 days of the receipt of those items submitted pursuant to (d)(2), above; or

(2) Terminate the permit process and issue a final determination of insufficiency if a complete response to the initial determination of insufficiency is not received from the owner or operator of the affected facility within 60 days of receipt of notification of the division's initial determination of insufficiency.

(h) within 30 days of the issuance of a proposed RACT order, the division shall issue a public notice of any oral hearing on a proposed RACT order, once in a newspaper of daily statewide circulation and once in a newspaper in the general locality of the affected source.

(i) The division shall conduct an oral hearing on the proposed RACT order not less than 30 day after the issuance of the public notice.

(j) The division shall issue a final RACT order to the owner or operator of the affected facility within 60 days of the date of the public hearing on the proposed RACT order.

(k) The division shall submit to EPA a revision to the state implementation plan (SIP) within 60 days of the issuance of a final RACT order.

Env-A 1204.06 Equivalent Substitute Control Techniques.

(a) The director shall approve all control techniques which are different from those specified in the applicable sections of this part, provided that the substitute control technique proposed shall result in a reduction of VOC emissions or

emission rates equal to or greater than the reduction resulting from the control techniques required by the sections in this part. The determination as to whether the proposed substitute control technique is equivalent to the applicable specified technique shall be verified by test methods or other procedures approved by the director in accordance with (b), below.

(b) For any method of emission control or testing or equipment operation or maintenance procedure that is proposed by a VOC source as a substitute for a specified control technique and that requires approval by the director, the following procedure shall apply:

(1) The VOC source seeking approval of the substitute control technique shall submit to the director technical data and information demonstrating that:

a. The purpose of the specified control technique will be achieved by the substitute control technique; and

b. The compliance verification procedures for the substitute control technique produce results that are no less precise and accurate than those produced by the compliance verification procedures for the specified control technique.

(2) The director shall review the submitted information and shall approve or reject the proposed substitute control technique within 60 days of receipt of the complete application. Upon approval by the director, the substitute control technique shall be designated as an equivalent substitute control technique.

Env-A 1204.07 Emissions Monitoring Requirements. All sources subject to this part shall comply with the applicable testing requirements as listed for each source category pursuant to Env-A 803. When compliance with the applicable emission standards is achieved by using a capture and control system, a CE test shall be performed according to the procedures in Env-A 804.

Env-A 1204.08 Recordkeeping and Reporting Requirements. All sources subject to this part shall comply with the applicable recordkeeping and reporting requirements as specified for each source category in Env-A 901.

Env-A 1204.09 Applicability Criteria and Compliance Standards for coating of Metal Cans.

(a) All sources whose metal can coating operations have combined TPEs during any consecutive 12-month period after December 31, 1989 which equal or exceed 10 tons of non-exempt VOCs shall be subject to the provisions of this section.

(b) For the purpose of this section, the following definitions shall apply:

(1) “End sealing compound” means a synthetic rubber compound which is coated onto metal can ends and which functions as a gasket when the end is assembled on the can.

(2) “Exterior base coating” means a coating applied to the exterior of the body of a two-piece can to provide exterior protection to the metal or to provide background for the lithographic or printing operation.

(3) “Interior base coating” means a coating applied by roller coater or spray to the metal sheets for three-piece cans to provide a protective lining between the can metal and product.

(4) “Interior body spray” means a coating sprayed on the interior of the metal can body to provide a protective film between the product and the can.

(5) “Over-varnish” means a coating applied directly over a design coating or direct over ink to reduce the coefficient of friction, to provide gloss and to protect the finish against abrasion and corrosion.

(6) “Side seam spray” means a coating applied to the seam of a three-piece can.

(7) “Three-piece can” means a metal can that is made by rolling a rectangular sheet of metal into a cylinder that is welded, cemented or soldered at the seam and attaching 2 ends.

(8) “Two-piece can” means a metal can whose body and one end are formed from a shallow cup and to which the other end is later attached.

(9) “Two-piece can exterior and coating” means a coating applied by roller coating or spraying to the exterior end of a metal can to provide protection to the metal.

(c) Metal can coating sources shall be limited at all times to the emission rates specified below:

(1) For use in interior or exterior sheet base-coating or over-varnish, or a two-piece can exterior basecoat or over-varnish, 0.34 kg/l (2.8 lb VOC/gallon) of coating as applied, excluding water and exempt compounds or, for sources implementing add-on controls or a bubble to achieve compliance, the solids-based emission rate determined by the procedure described in Env-A 1204.04(c);

(2) For use in a two-piece or three-piece can interior body spray coating, or a two-piece can exterior end spray or roll coating, 0.51 kg/l (4.2 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds;

(3) For use in three-piece can side-seam spray operations; 0.66 kg/l (5.5 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds; or

(4) For use in end sealing compound operations, 0.44 kg/l (3.7 lb VOC/gallon) of coating, as applied excluding water and exempt compounds.

(d) As an alternative to the applicable emission rate limit(s) specified in (c), above, metal can coating operations meeting the applicability criteria of this section may satisfy the requirements of this section either by:

(1) Implementing add-on control techniques or a bubble and complying with the solids-based emission rate limits calculated using the procedures of Env-A 1204.04(c); or

(2) Meeting either a coatings-based or solids-based modified emission rate limit as approved by the director and EPA in accordance with the RACT order provisions of this part in the event that the source owner or operator demonstrates that the specified emission rate limits in (c) or (d)(1), above, cannot be met because of technological and/or economic reasons.

Env-A 1204.10 Applicability Criteria and Compliance Standards for Coating of Paper, Fabric, Film and Foil Substrates.

(a) All sources whose paper, fabric, film and foil coating operations, including specialty printing, have combined TPEs during any consecutive 12-month period after December 31, 1989 which equal or exceed 10 tons of non-exempt VOCs shall be subject to the provisions of this section.

(b) Those processes applying a coating to vinyl or urethane coated fabric, or vinyl or urethane sheets shall be excluded from the provisions of this section.

(c) Those processes applying a coating to any woven or non-woven, fibrous or non-fibrous substrate, including paper, fabric, glass matting, plastic film, ribbon, and magnetic tapes shall be limited at all times to an emission rate of 0.35 kg/l (2.9 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds.

(d) As an alternative to the applicable emission rate limit specified in (c), above, paper, fabric, film and foil substrate coating operations meeting the applicability criteria of this section may satisfy the requirements of this section either by:

(1) Implementing add-on control techniques or a bubble and complying with the solids-based emission rate limit calculated using the procedures of Env-A 1204.04(c); or

(2) Meeting either a coatings-based or solids-based modified emission rate

limit as approved by the director and EPA in accordance with the RACT order provisions of this part in the event that the source owner or operator demonstrates that the specified emission rate limit in (c) or (d)(1), above, cannot be met because of technological and/or economic reasons.

Env-A 1204.11 Applicability Criteria and Compliance Standards for Vinyl and Urethane Substrate Coating.

(a) All sources whose vinyl or urethane substrate coating operations have combined TPEs during any consecutive 12-month period after December 31, 1989 which equal or exceed 10 tons of non-exempt VOCs shall be subject to the provisions of this section.

(b) Those processes applying a coating onto vinyl or urethane coated fabric, or vinyl or urethane sheets shall be limited at all times to an emission rate of 0.45 kg/l (3.8 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds.

(c) As an alternative to the applicable emission rate limit specified in (b), above, vinyl or urethane substrate coating operations meeting the applicability criteria of this section may satisfy the requirements of this section either by:

(1) Implementing add-on control techniques or a bubble and complying with the solids-based emission rate limit calculated using the procedures of Env-A 1204.04(c); or

(2) Meeting either a coatings-based or solids-based modified emission rate limit as approved by the director and EPA in accordance with the RACT order provisions of this part in the event that the source owner or operator demonstrates that the specified emission rate limit in (b) or (c)(1), above, cannot be met because of technological and/or economic reasons.

Env-A 1204.12 Applicability Criteria and Compliance Standards for Metal Furniture Coating.

(a) All sources whose metal furniture coating operations have combined TPEs during any consecutive 12-month period after December 31, 1989 which equal or exceed 10 tons of non-exempt VOCs shall be subject to the provisions of this section. This section shall apply to the emissions from application area(s), flash-off area(s), and oven(s) of metal furniture coating lines involved in prime and topcoat or single coating operations.

(b) For the purpose of this section, the following definitions shall apply:

(1) "Application area" means the area within a facility where the coating is applied by spraying, dipping or flowcoating techniques.

(2) "Flash-off area" means the space between the coating application area

and the oven.

(c) Those processes applying a coating onto metal furniture or parts of metal furniture, including but not limited to tables, benches, chairs, file cabinets, and waste baskets, shall be limited at all times to an emission rate of 0.36 kg/l (3.0 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds.

(d) As an alternative to the applicable emission rate limit specified in (c), above, metal furniture coating operations meeting the applicability criteria of this section may satisfy the requirements of this section either by:

(1) Implementing add-on control techniques or a bubble and complying with the solids-based emission rate limit calculated using the procedures of Env-A 1204.04(c); or

(2) Meeting either a coatings-based or solids-based modified emission rate limit as approved by the director and EPA in accordance with the RACT order provisions of this part in the event that the source owner or operator demonstrates that the specified emission rate limit in (c) or (d)(1), above, cannot be met because of technological and/or economic reasons.

Env-A 1204.13 Applicability Criteria and Compliance Standards for Magnetic Wire Insulation Coating.

(a) All sources whose magnetic wire insulation coating operations have combined TPEs during any consecutive 12-month period after December 31, 1989 which equal or exceed 10 tons of non-exempt VOCs shall be subject to the provisions of this section.

(b) Those processes applying a coating of electrically insulating varnish or enamel onto copper or aluminum wire or foil shall be limited at all times to an emission rate of 0.20 kg/l (1.7 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds.

(c) As an alternative to the applicable emission rate limit specified in (b), above, magnetic wire insulation coating operations meeting the applicability criteria of this section may satisfy the requirements of this section either by:

(1) Implementing add-on control techniques or a bubble and complying with the solids-based emission rate limit calculated using the procedures of Env-A 1204.04(c); or

(2) Meeting either a coatings-based or solids-based modified emission rate limit as approved by the director and EPA in accordance with the RACT order provisions of this part in the event that the source owner or operator demonstrates that the specified emission rate limit in (b) or (c)(1), above, cannot be met because of technological and/or economic reasons.

Env-A 1204.14 Applicability Criteria and Compliance Standards for Coating of Metal Coils.

(a) All sources whose metal coil coating operations have combined TPEs during any consecutive 12-month period after December 31, 1989 which equal or exceed 10 tons of non-exempt VOCs shall be subject to the provisions of this section.

(b) For the purpose of this section, the following definitions shall apply:

(1) "Coil coating line" means a web coating line where coating is applied to metal coil.

(2) "Coil coating unit" means a coating application station and its associated flashoff area, drying area, and/or drying oven wherein coating is applied and dried or cured on a coil coating line.

(c) Those processes applying a coating onto a metal coil substrate shall be limited at all times to an emission rate of 0.31 kg/l (2.6 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds.

(d) As an alternative to the applicable emission rate limit specified in (c), above, metal coil coating operations meeting the applicability criteria of this section may satisfy the requirements of this section either by:

(1) Implementing add-on control techniques or a bubble and complying with the solids-based emission rate limit calculated using the procedures of Env-A 1204.04(c); or

(2) Meeting either a coatings-based or solids-based modified emission rate limit as approved by the director and EPA in accordance with the RACT order provisions of this part in the event that the source owner or operator demonstrates that the specified emission rate limit in (c) or (d)(1), above, cannot be met because of technological and/or economic reasons.

Env-A 1204.15 Applicability Criteria and Compliance Standards for Coating of Miscellaneous Metal Parts and Products.

(a) All sources whose miscellaneous metal parts and products coating operations have combined TPEs during any consecutive 12-month period after December 31, 1989 which equal or exceed 10 tons of non-exempt VOCs shall be subject to the provisions of this section.

(b) For the purpose of this section, the following definitions shall apply:

(1) "Air dried coating" means coatings which are dried by the use of air or forced warm air at temperatures up to 90°C (194°F);

(2) "Coating application system" means all operations and equipment



which applies, conveys, and dries a coating, including, but not limited to, spray booths, flow coaters, flash-off areas, air dryers and ovens;

(3) "Exposure to extreme environmental conditions" means constant exposure to weather, or exposure to any of the following conditions: ambient temperatures frequently above 95°C (203°F), detergent, abrasive and scouring agents, solvents, corrosive atmospheres, or similar environmental conditions;

(4) "Extreme performance coatings" means coatings designed for exposure to extreme environmental conditions.

(5) "Heat sensitive material" means materials which cannot consistently be exposed to temperatures greater than 95°C (203°F); and

(6) "Single coat" means one film of coating applied to a metal surface.

(c) Those processes applying a protective, decorative or functional coating onto metal parts and products such as tractors, fans, pumps, meters, doors, frames and shelves shall be limited at all times to the emission rates specified below:

(1) For a coating that is a clear or transparent top coat, 0.52 kg/l (4.3 lb. VOC/gallon) of coating, as applied, excluding water and exempt compounds;

(2) For a coating that is air dried, 0.42 kg/l (3.5 lb. VOC/gallon) of coating, as applied, excluding water and exempt compounds;

(3) For a coating that is used in extreme environmental conditions, 0.42 kg/l (3.5 lb. VOC/gallon) of coating, as applied, excluding water and exempt compounds; and

(4) For all other coatings, 0.36 kg/l (3.0 lb. VOC/gallon) of coating, as applied, excluding water and exempt compounds.

(d) If more than one emission limitation stipulated in (c), above, applies to a specific coating, then the least stringent emission limitation shall apply.

(e) All non-exempt VOC emissions from solvent washing shall be considered in the emission limitations unless the solvent is directed into containers that prevent evaporation into the atmosphere.

(f) As an alternative to the applicable emission rate limit(s) specified in (c) as qualified by (d) and (e), above, miscellaneous metal parts coating operations meeting the applicability criteria of this section may satisfy the requirements of this section either by:

(1) Implementing add-on control techniques or a bubble and complying

with the solids-based emission rate limit(s) calculated using the procedures of Env-A 1204.04(c); or

(2) Meeting either (a) coatings-based or solids-based modified emission rate limit(s) as approved by the director and EPA in accordance with the RACT order provisions of this part in the event that the source owner or operator demonstrates that the specified emission rate limit(s) in (c) or (f)(1), above, cannot be met because of technological and/or economic reasons.

Env-A 1204.16 Applicability Criteria and Compliance Standards for Plastic Parts Coating.

(a) All sources whose plastic parts coating operations have combined TPEs during any consecutive 12-month period after December 31, 1989, equal or exceed 50 tons of non-exempt VOCs shall be subject to the provisions of this section.

(b) For the purpose of this section, the following definitions shall apply:

(1) "Adhesion promoter" mean a coating applied to a plastic substrate to facilitate the adhesion of subsequent coatings.

(2) "Automotive" means that which pertains to roadway vehicles with enclosed driver/passenger compartments, including automobiles, trucks, buses, vans, and limousines.

(3) "Business machines" means a device that uses electronic or mechanical methods to process information, perform calculations, print or copy information, or convert sound into electrical impulses for transmission, including any product classified under the standard industrial classification codes pursuant to the definition given in 40 CFR 60.721(a).

(4) "Color coat" means a coating which is pigmented and the purpose of which is to impart a desired color to a product.

(5) "Electromagnetic interference (EMI) shielding coatings" means a coating used in plastic business machine housing to attenuate electromagnetic signals that would otherwise pass through the plastic housing.

(6) "Electrostatic prep coating" means a coating that is applied to a plastic part solely to provide conductivity for the subsequent application of a prime coat, a topcoat, or other coating through the use of electrostatic application methods. Such coating is clearly identified as an electrostatic prep coat on its accompanying material safety data sheet.

(7) “Flexible coating” means a coating with the ability to withstand dimensional changes resulting from mechanical or thermal distortion of its substrate.

(8) “Gloss reducers” means a low gloss coating formulated to eliminate glare for safety purposes on interior surfaces of a vehicle, as specified under the U.S. Department of Transportation Motor Vehicle Safety Standards.

(9) “High bake coating” means a coating design to cure at temperatures above 194°F (90°C) .

(10) “Low bake coating” means a coating designed to cure at temperatures no higher than 194°F (90°C).

(11) “Non-flexible coating” means a coating without the ability to withstand dimensional changes and designed for substrates that remain rigid during normal use.

(12) “Primer” or “prime coating” means the first of 2 or more films of coating applied to a surface.

(13) “Radio frequency interference (RFI) shielding coatings” means a coating used in plastic business machine housing to attenuate radio frequency signals that would otherwise pass through the plastic housing.

(14) “Reflexive argent coating” means a silver-colored coating that will reflect light.

(15) “Resist coating” means a coating that is applied to a plastic part prior to metallic plating to prevent deposits of metal from forming on said part.

(16) “Soft coating” means any coating that provides a soft tactile feel similar to leather and a rich leather-like appearance when applied to plastic interior automotive parts and exterior business machine parts.

(17) “Stencil coating” means a coating that is applied over a stencil to a plastic part at a thickness of not more than 1 mil. of coating solids, generally forming letters, numbers or decorative designs.

(18) “Texture coating” means a coating that is applied to a plastic part which, in its finished form, consists of discrete raised spots of the coating.

(19) “Vacuum metallizing” means a process whereby metal is vaporized and deposited on a substrate in a vacuum chamber.

(20) “Vacuum metallizing coating” means a topcoat or basecoat that is used in the vacuum metalizing process.

(c) Those processes applying a non-specialty protective, decorative or functional coating onto plastic components of automotive interiors shall be limited at all times to the emission rates specified below:

- (1) For high bake prime coatings, 0.46 kg VOC/l (3.8 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds;
- (2) For high bake color coatings, 0.49 kg VOC/l (4.1 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds;
- (3) For low bake prime coatings, 0.42 kg VOC/l (3.5 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds; and
- (4) For low bake color coatings, 0.38 kg VOC/l (3.2 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds.

(d) Those processes applying a non-specialty protective, decorative or functional coating onto plastic components of automotive exteriors shall be limited at all times to the VOC RACT emission rates specified below:

- (1) For high bake flexible prime coatings, 0.60 kg VOC/l (5.0 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds;
- (2) For high bake nonflexible prime coatings, 0.54 kg VOC/l (4.5 lb VOC/gallon) of coating, as excluding water and exempt compounds;
- (3) For high bake color coatings, 0.55 kg VOC/l (4.6 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds;
- (4) For high bake clear coatings, 0.52 kg VOC/l (4.3 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds;
- (5) For low bake prime coatings, 0.66 kg VOC/l (5.5 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds;
- (6) For red or black low bake color coatings, 0.67 kg VOC/l (5.6 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds;
- (7) For low bake color coatings, except for red or black colors, 0.61 kg VOC/l (5.1 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds; and
- (8) For low bake clear coatings, 0.54 kg VOC/l (4.5 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds.

(e) The following processes applying specialty coatings onto plastic automotive

components shall be limited at all times to the VOC RACT emission rates specified below, per specialty coating class:

(1) For black or reflective argent coatings, soft specialty coatings, air bag cover coatings, vacuum metalizing basecoats and texture coatings, 0.66 kg VOC/l (5.5 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds;

(2) For gloss reducers, vacuum metalizing topcoats and texture topcoats, 0.77 kg VOC/l (6.4 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds;

(3) For stencil coatings, adhesion primers, ink pad printing coatings, electrostatic prep coats and resist coatings, 0.82 kg VOC/l (6.8 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds; and

(4) For coating of headlamp lenses, 0.89 kg VOC/l (7.4 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds.

(f) Those processes applying a nonspecialty protective, decorative or functional coating onto plastic substrates, except for automotive plastic components, shall be limited at all times to the VOC RACT emission rates specified below:

(1) For prime coatings, 0.14 kg VOC/l (1.2 lb VOC/gallon) of coating, as applied; excluding water and exempt compounds;

(2) For nontexture color coatings, 0.28 kg VOC/l (2.3 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds;

(3) For texture color coatings, 0.28 kg VOC/l (2.3 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds; and

(4) For electromagnetic interference (EMI) and radio frequency interference (RFI) shielding, 0.48 kg VOC/l (4.0 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds.

(g) Those processes applying a specialty protective, decorative or functional coating onto plastic substrates, except for automotive plastic components, shall be limited at all times to the emission rates specified below, per specialty class:

(1) For soft coatings, 0.52 kg VOC/l (4.3 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds;

(2) For plating resist, 0.71 kg VOC/l (5.9 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds; and

(3) For plating sensitizer, 0.85 kg VOC/l (7.1 lb VOC/gallon) of coating,

as applied, excluding water and exempt compounds.

(h) If more than one emission limitation stipulated in (c) through (g), above, applies to a specific coating, then the least stringent emission limitation shall apply.

(i) For all plastic parts coating operations except touch-up and repair activities, one of the following control techniques shall be used:

- (1) High volume-low pressure (HVLN) spray;
- (2) Electrostatic spray;
- (3) Zinc-arc spray;
- (4) Air-assisted airless spray;
- (5) Airless spray;
- (6) Flow coating techniques; or
- (7) An equivalent substitute control technique approved by the director in accordance with Env-A 1204.06.

(j) Touch-up and repair activities, excluding such activities that employ only compliant coating materials and one or more of the application techniques listed in (i), above, shall conform to the following requirements:

(1) Total non-exempt VOC consumption associated with touch-up and repair activities involving the use of conventional air spray shall not exceed 5 gallons per day per facility.

(2) Touch-up and repair activities shall not exceed 10 gallons per day where such activities involve:

- a. The use of aerosol containers; or
- b. That employ one or more non-compliant coating materials in conjunction with any of the application techniques listed in (i), above.

(k) As an alternative to the applicable emission rate limit(s) and/or technological controls specified in (c) through (j), above, plastic parts coating operations meeting the applicability criteria of this section may satisfy the requirements of this section either by:

- (1) For emission rate limits, implementing add-on control techniques or a bubble and complying with the solids-based emission rate limits

calculated using the procedures of Env-A 1204.04(c);

(2) For technological controls, implementing (an) equivalent substitute control technique(s) in accordance with the procedures described in this part;

(3) Meeting either a coatings-based or solids-based modified emission rate limit as approved by the director and EPA in accordance with the RACT order provisions of this part in the event that the source owner or operator demonstrates that the applicable specified emission rate limit(s) in (c), (d), (e), (f), (g) or (j)(1), above, cannot be met because of technological and/or economic reasons; or

(4) Complying with (a) modified control technique(s) approved by the director and EPA in accordance with the RACT order provisions of this part in the event that the source owner or operator demonstrates that the applicable specified control technique(s) in (i) or (j)(2), above, cannot be met because of technological and/or economic reasons.

Env-A 1204.17 Applicability Criteria and Compliance Standards for the Coating of Wood Furniture, Burial Caskets, and Gunstock.

(a) All sources whose wood furniture, wood burial casket or gunstock coating and finishing operations have combined TPEs during any consecutive 12-month period after December 31, 1989, that equal or exceed the following VOC RACT applicability thresholds shall be subject to the provisions of this section:

(1) Wood furniture coating, 25 tons non-exempt VOCs;

(2) Wood burial casket coating, 50 tons non-exempt VOCs; or

3) Gunstock coating, 50 tons non-exempt VOCs.

(b) For the purposes of this section, the following definitions shall apply:

(1) “Basecoat” means a coat of colored material, usually opaque, that is applied before graining inks, glazing coats, or other opaque finishing materials and is usually topcoated for protection.

(2) “Continuous coater” means a finishing system that continuously applies finishing materials onto furniture or burial casket parts moving along a conveyor system. Finishing materials that are not transferred to the part are recycled to the finishing material reservoir.

(3) “Conversion varnish” means a special water-resistant varnish used primarily for wood cabinets and trim installed in kitchens, bathrooms and other environments where water resistance is important.

(4) “Finishing application station” means the part of a finishing operation where the finishing material is applied, such as a spray booth.

(5) “Finishing material” means a coating other than an adhesive. For the wood furniture and burial casket manufacturing industry, such materials include, but are not limited to, basecoats, stains, washcoats, sealers, topcoats, and enamels.

(6) “Finishing operation” means those activities in which a finishing material is applied to a substrate and is subsequently air dried, cured in an oven, or cured by radiation.

(7) “Normally closed container” means a container that is closed unless an operator is actively engaged in activities such as emptying or filling the container.

(8) “Pigmented coating” means a coating which is pigmented for the purpose of imparting a desired color to a product.

(9) “Pigmented primer” means the first of 2 or more films of coating applied to a surface.

(10) “Sealer” means a finishing material used to seal the pores of a wood substrate before additional coats of finishing material are applied. This term does not include special purpose finishing materials that are used in some finishing systems to optimize aesthetics.

(11) “Shader” means a pigmented coating applied in wood burial casket finishing operations which shader functions to provide a color differential on the wood surface for decorative effect.

(12) “Stain” means any color coat that is applied in single or multiple coats directly to the substrate, including, but not limited to, nongrain raising stains, equalizer stains, sap stains, body stains, no-wipe stains, penetrating stains and toners.

(13) “Strippable booth coating” means a coating that is:

- a. Applied to a booth wall to provide a protective film to receive overspray during finishing operations; and

- b. Subsequently peeled off and disposed.

(14) “Toner” means a coating applied to wood to minimize color differences on the unfinished wood and to allow the subsequent coating to color the wood evenly.

(15) “Washcoat” means a transparent special purpose coating that is



applied over an initial stain to protect and control color and to stiffen the wood fibers in order to aid sanding and to which a topcoat is applied.

(16) “Washoff operations” means those operations in which organic solvent is used to remove coating from a substrate.

(c) Wood furniture or burial casket finishing operations, except as specified in (d), below, shall be limited at all times to the VOC RACT emission rates stipulated below:

(1) Using topcoats with a non-exempt VOC content no greater than 0.8 kg VOC/kg solids (0.8 lb VOC/lb solids), as applied; or

(2) Using a finishing system of topcoats and sealers with a non-exempt VOC content no greater than the limits specified below:

a. For topcoats, 1.8 kg VOC/kg solids (1.8 lb VOC/lb solids), as applied; and

b. For sealers, 1.9 kg VOC/kg solids (1.9 lb VOC/lb solids), as applied; or

(3) Using an averaging approach as described in (f), below.

(d) Wood furniture finishing operations using either acid-cured alkyd amino vinyl sealers or acid-cured alkyd amino conversion varnish topcoats shall be limited at all times to the VOC RACT emission rates specified below:

(1) Using a finishing system of topcoats and sealers consisting exclusively of acid-cured alkyd amino vinyl sealers and acid-cured alkyd amino conversion varnish topcoats with a non-exempt VOC content no greater than the following:

a. For the sealers, 2.3 kg VOC/kg solids (2.3 lb VOC/lb solids), as applied; and

b. For the topcoats, 2.0 kg VOC/kg solids (2.0 lb VOC/lb solids), as applied;

(2) Using a finishing system of topcoats and sealers consisting of acid-cured alkyd amino conversion varnish topcoats and sealers other than acid-cured alkyd amino vinyl sealers with a non-exempt VOC content no greater than the limits specified below:

a. For the sealers, 1.91 kg VOC/kg solids (1.9 lb VOC/lb solids), as applied; and

b. For the topcoats, 2.0 kg VOC/kg solids (2.0 lb VOC/lb solids),

as applied;

(3) Using a finishing system of topcoats and sealers consisting of acid-cured alkyd amino vinyl sealers and topcoats other than acid-cured alkyd amino conversion varnish topcoats with a non-exempt VOC content no greater than the limits specified below:

- a. For the sealers, 2.3 kg VOC/kg solids (2.3 lb VOC/lb solids), as applied; and
- b. For the topcoats, 1.8 kg VOC/kg solids (1.8 lb VOC/lb solids), as applied; or

(4) Using an averaging approach as described in (f), below.

(e) Those processes applying a protective, decorative or functional coating onto the wood surfaces of gunstock shall be limited at all times as stipulated below:

(1) Using a finishing system of topcoats and sealers with a non-exempt VOC content no greater than the limits specified below:

- a. For topcoats, 2.0 kg VOC/kg solids (2.0 lb VOC/lb solids), as applied, {averaged over any 24-hour period}; and
- b. For sealers, 2.3 kg VOC/kg solids (2.3 lb VOC/lb solids), as applied, {averaged over any 24-hour period}; or

(2) Using an averaging approach as described in (f), below.

(f) A wood furniture, burial casket or gunstock finishing operation that chooses an averaging approach to limit VOC emission rates pursuant to (c)(3), (d)(4), or (e)(2), above, shall comply with the following:

(1) Provide a demonstration that actual emission rates from the applicable source are, at all times, less than or equal to allowable VOC RACT emission rates using one of the following procedures:

- a. An averaging technique involving several types of topcoats in accordance with the following:

- 1. “TC<sub>i</sub>” means the kilograms (or pounds) of solids of the i<sup>th</sup> topcoat used;
- 2. “ER<sub>TCi</sub>” means the non-exempt VOC content of the i<sup>th</sup> topcoat in kg VOC/kg solids (or lb VOC/lb solids) as applied;
- 3. “N” means the total number of topcoats applied;

4. The product of 0.9, 0.8 and the sum of the  $TC_i$  shall be greater than or equal to the sum of the products of the individual  $ER_{TCi}$  and the  $TC_i$ , as in the following equation:

$$0.9 * \sum_{i=1}^N 0.8 (TC_i) + \sum_{i=1}^N ER_{TCi} * (TC_i) ;$$

or

b. An averaging technique involving several types of topcoats, sealers, washcoats, basecoats and stains in accordance with the following:

1. "N" means the number of finishing materials participating in averaging;
2. " $TC_i$ " means the kilograms (or pounds) of solids of the  $i^{th}$  topcoat used;
3. " $SE_i$ " means the kilograms (or pounds) of solids of the  $i^{th}$  sealer used;
4. " $WC_i$ " means the kilograms (or pounds) of solids of the  $i^{th}$  washcoat used;
5. " $BC_i$ " means the kilograms (or pounds) of solids of the  $i^{th}$  basecoat used;
6. " $ST_i$ " means the liters (or gallons) of the  $i^{th}$  stain used;
7. " $ER_{TCi}$ " means the non-exempt VOC content of the  $i^{th}$  topcoat in kg VOC/kg solids (or lb VOC/lb solids) as applied;
8. " $ER_{SEi}$ " means the non-exempt VOC content of the  $i^{th}$  sealer in kg VOC/kg solids (or lb VOC/lb solids) as applied;
9. " $ER_{WCi}$ " means the non-exempt VOC content of the  $i^{th}$  washcoat in kg VOC/kg solids (or lb VOC/lb solids) as applied;
10. " $ER_{SCi}$ " means the non-exempt VOC Content of the  $i^{th}$  basecoat in kg VOC/kg solids (or lb VOC/lb solids) as applied;
11. " $ER_{STi}$ " means the non-exempt VOC content of the  $i^{th}$  stain in kg VOC/liter stain, (or lb VOC/gal stain) as

applied;

12. “TCS” means the product of 1.8 and the sum of the individual TC<sub>i</sub>;

13. “SES” means the product of 1.9 and the sum of the individual SE<sub>i</sub>;

14. “WCS” means the product of 9.0 and the sum of the individual WC<sub>i</sub>;

15. “BCS” means the product of 1.2 and the sum of the individual BC<sub>i</sub>;

16. “STS” means the product of 0.791 and the sum of the individual ST<sub>i</sub>;

17. “AG” means the sum of TCS, SES, WCS, BCS, and STS, as in the following equation:

$$AG = \sum_{i=1}^N 1.8 (TC_i) + 1.9 (SE_i) + 9.0 (WC_i) + 1.2 (BC_i) + 0.791 (ST_i) \quad ;$$

18. “ERTC” means the sum of the products of the individual ERTC<sub>i</sub> and the individual TC<sub>i</sub> ;

19. “ERSE” means the sum of the products of the individual ERSE<sub>i</sub> and the individual SE<sub>i</sub> ;

20. “ERWC” means the sum of the products of the individual ERWC<sub>i</sub> and the individual WC<sub>i</sub> ;

21. “ERBC” means the sum of the products of the individual ERBC<sub>i</sub> and the individual BC<sub>i</sub> ;

22. “ERST” means the sum of the products of the individual ERST<sub>i</sub> and the individual ST<sub>i</sub> ;

23. “AL” means the sum of ERTC, ERSE, ERWC, ERBC, and ERST, as in the following equation:

$$AL = \sum_{i=1}^N ER_{TC_i} * (TC_i) + ER_{SE_i} * (SE_i) + ER_{WC_i} * (WC_i) + ER_{BC_i} * (BC_i) + ER_{ST_i} * (ST_i) \quad ;$$

24. The product of 0.9 and AG shall be greater than or equal to AL, as in the following equation:

(2) Any source intending to comply with the requirements of this section by means of an averaging approach shall provide an averaging proposal to the division for approval in accordance with (3), below.

(3) All averaging proposals submitted to the division pursuant to (2), above, shall contain the following:

- a. A detailed plant description, including all coatings and finishing materials intended by the source to be included in the averaging technique;
- b. A demonstration of the need for the use of an averaging approach versus compliance with the emission limits specified in (c), (d), or (e), above, where applicable;
- c. A description of additional environmental benefits, if any, to the use of an averaging approach;
- d. The baseline emissions of non-exempt VOCs from all processes or devices to be included in the averaging technique;
- e. A detailed description of the procedures to be used by the source to quantify the non-exempt VOC emissions at the source, including:
  1. A detailed discussion of the procedures to be used by employees to track said emissions; and
  2. A description of the equations and calculations used to quantify the actual allowable emission; and
- f. An implementation schedule ensuring that the source is in compliance by the effective date of this rule;

(5) The director shall review all averaging proposals submitted in accordance with (f)(3), above, and shall take the following action(s):

- a. Determine the completeness status of all said proposals within 30 calendar days from the date of receipt by the division and request additional information from all sources having incomplete proposals;
- b. Approve or disapprove all averaging proposal within 30 calendar days of the date when deemed complete by the director; and

(6) The source shall submit any additional information or data requested by the director pursuant to (5)a., above, within 30 calendar days of said request.

(g) The non-exempt VOC content or amount of organic solvents and strippable booth coatings associated with spray booth cleaning operations for spray booths used in wood furniture or wood burial casket finishing operations or gunstock coating processes shall not, at any time, exceed the following limits:

(1) For organic solvents used to clean spray booth components other than conveyors, continuous coaters and their enclosures, and/or metal filters of spray booths that are not being refurbished, 8.0% by weight of VOC;

(2) For organic solvents used to clean a spray booth that is being refurbished, 1.0 gallons of organic solvent; and

(3) For strippable booth coatings, 0.8 kg VOC/kg solids (0.8 lb VOC/lb solids), as applied.

(h) In addition to the requirements of (g), above, VOC emissions associated with materials storage or solvent cleaning operations applicable to wood furniture or burial casket finishing operations, or gunstock coating, shall be controlled as follows:

(1) All finishing and cleaning material shall be stored in a normally closed container;

(2) All organic solvent used for line cleaning shall be pumped or drained into a normally closed container;

(3) All organic solvent used to clean spray guns shall be collected into a normally closed container; and

(4) Emissions from washoff operations shall be controlled by:

a. Using normally closed tanks for washoff; and

b. Minimizing dripping by tilting or rotating the part to drain as much organic solvent as possible.

(i) The following shall be met by all wood furniture, wood burial casket and gunstock coating facilities:

(1) For all operations, one or more of the following control techniques shall be used:

a. High volume - low pressure (HVLP) spray;

- b. Airless spray;
- c. Air-assisted airless spray;
- d. Flow coating techniques;
- e. An equivalent substitute control technique approved by the director in accordance with Env-A 1204.06; or
- f. Conventional air spray under any one or more of the following circumstances:
  - 1. The application of finishing materials having a non-exempt VOC content not greater than 1.0 kg VOC/kg solids (1.0 lb VOC/lb solids), as applied ;
  - 2. The spray is automated;
  - 3. The emissions from the finishing application station are directed to add-on control equipment;
  - 4. The conventional air spray gun is used to apply finishing materials and the cumulative total usage of that finishing material is less than 5.0% of the total gallons of finishing material used during the applicable semi-annual reporting period;
  - 5. The conventional air gun is used to apply stain on a part for which it is technically or economically infeasible to use any other spray application technology, as demonstrated in accordance with the provisions of (2), below; or
  - 6. Touch-up and repair activities in accordance with the provisions of (j) , below.

(2) Any source intending to use conventional air spray pursuant to (i)(1)f.5., above, shall demonstrate technical or economic infeasibility by submitting to the division a videotape, a technical report, or other documentation that supports the affected source's claim of technical or economic feasibility, to be determined in accordance with (3), below.

(3) The following criteria, shall be used, either independently or in combination, to support the affected source's claim of technical or economic infeasibility pursuant to (2), above:

- a. The production speed is too high or the part shape is too complex for a single operator to coat the part and the application station is not large enough to accommodate an additional operator;

or

b. The excessively large vertical spray area of the part makes it difficult to avoid runs in the stain or sagging of the part.

(j) Touch-up and repair activities, excluding such activities that employ only compliant coating materials and one or more of the application techniques listed in (i)(1), above, shall conform to the following requirements:

(1) Touch-up and repair activities using conventional air spray shall conform to one or more of the following requirements:

a. The touch-up and repair finishing materials shall be applied after the completion of the finishing operation; or

b. The touch-up and repair finishing materials shall be:

1. Applied after the application of the stain and prior to the application of any other types of finishing material; and

2. Applied from a container with a capacity of not more than 2 gallons;

c. Total non-exempt VOC consumption associated with touch-up and repair activities using conventional air spray shall not exceed 5 gallons per day at a stationary source; and

(2) Consumption of touch-up and repair finishing materials shall not exceed 10 gallons per day where such activities employ:

a. The use of aerosol containers; or

b. One or more non-compliant coating materials in conjunction with any of the application techniques listed in (i)(1), above.

(k) Owners or operators of RACT applicable wood furniture coating sources shall prepare an initial training course and an annual refresher course to be given to all source personnel, including contract personnel, who are directly involved in the implementation of this rule meeting the requirements specified below:

(1) The personnel training courses shall consist of, at a minimum, all of the following elements:

a. A list of all personnel, including contract personnel, by name and job description;

b. An outline of the subjects to be covered, for each person or group of personnel, in the initial training course and each refresher



course;

c. Lesson plans for the initial training course and each refresher course that include, at a minimum:

1. Application techniques;
2. Cleaning procedures, including appropriate management of cleanup wastes; and
3. Appropriate equipment assembly and adjustment to minimize coating and finishing material usage and overspray; and

d. A description of the personnel examination methods to be used at the completion of the initial and refresher training to demonstrate and document successful completion; and

(2) The source owner or operator shall maintain a copy of all course materials developed pursuant to (1), above, for inspection by the division upon demand.

(l) Each owner or operator of a wood furniture coating source shall prepare and maintain a copy of a leak inspection and maintenance plan that contains the following:

(1) A minimum visual inspection frequency of once per month for all equipment used to transfer or apply finishing materials or organic solvents;

(2) An inspection schedule;

(3) Methods for documenting the date and results of each inspection and any repairs that were made;

(4) The timeframe between identifying the leak and making the repair, in accordance with the following schedule:

a. The first repair attempt, such as tightening of packing glands, shall be made no later than 5 business days after the leak is initially detected; and

b. Final repair(s) shall be made within the following time periods:

1. If the leaking equipment is to be replaced by a new purchase, not later than 90 calendar days after initial leak detection; or

2. If the leaking equipment is not to be replaced by a new purchase, not later than 15 business days after initial leak detection.

(m) Each owner or operator of a wood furniture coating source shall develop an organic solvent accounting form to record the following for each calendar month:

(1) The quantity and type of organic solvent used for washoff and cleaning;

(2) The number of pieces washed off, and the reason for the washoff; and

(3) The quantity of spent organic solvent generated from each activity and the quantity of said solvent that is recycled on-site or disposed off-site.

(n) As an alternative to the applicable emission rate limit(s) and/or technological or operation and maintenance controls and/or work practice standards specified in (c) through (m), above, whichever requirements are applicable, wood furniture, wood burial casket or gunstock coating and finishing operations meeting the applicability criteria of this section may satisfy the requirements of this section by one or more of the following methods:

(1) Installing and using an add-on control system that results in emissions to the atmosphere that do not numerically exceed the applicable non-exempt VOC content limit(s), validated by the procedure described in (o), below;

(2) For technological controls, implementing (an) equivalent substitute control technique(s) in accordance with the procedures described in this part;

(3) Meeting either a coatings-based or solids-based modified emission rate or non-exempt non-exempt VOC content limit as approved by the director and EPA in accordance with the RACT order provisions of this part in the event that the source owner or operator demonstrates that one or more of the following cannot be met because of technological and/or economic reasons:

a. The applicable specified emission rate limit(s) in (c), (d), (e), (f) or (i)(1)f.1., above; or

b. The applicable non-exempt VOC content limit(s) prescribed in (g), above; or

(4) Complying with (a) modified control technique(s) approved by the director and EPA in accordance with the RACT order provisions of this part in the event that the source owner or operator demonstrates that the applicable specified control technique(s) in (h), (i), (j), (k), (l) or (m),

above cannot be met because of technological and/or economic reasons.

(o) Sources selecting an alternative compliance technique pursuant to (n)(1), above, shall demonstrate, in accordance with the procedures of Env-A 803.03(b), that the overall percentage reduction  $R_o$  achieved by the add-on control system exceeds the percentage reduction required to meet the applicable non-exempt VOC content limit, determined as follows:

(1) " $C_v$ " means the non-exempt VOC content of the coating, in kg VOC/kg solids (lb VOC/lb solids), as applied;

(2) " $C_{vp}$ " means the applicable maximum allowable non-exempt VOC content prescribed in this section;

(3) " $R_{op}$ " means the overall percentage reduction  $R_o$  achieved by the add-on control system; and

(4)  $R_{op}$  shall be greater than or equal to the difference between  $C_v$  and  $C_{vp}$ , divided by  $C_v$  and multiplied by 100, as in the following equation:

$$R_{op} = 100 * (C_v - C_{vp}) / C_v .$$

Env-A 1204.18 Applicability Criteria and Compliance Standards for Rotogravure and Flexographic Printing.

(a) All sources whose rotogravure or flexographic printing operations have combined TPEs during any consecutive 12-month period after December 31, 1989 which equal or exceed 50 tons of VOCs shall be subject to the provisions of this section.

(b) For the purpose of this section, the following definitions shall apply:

(1) "Packaging rotogravure printing" means rotogravure printing upon paper, paper board, metal foil, plastic film, and other substrates, which are, in subsequent operations, formed into packaging products and other non-publication products;

(2) "Publication rotogravure printing" means rotogravure printing upon paper which is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements, and other types of printed materials such as pamphlets, periodicals, direct mail advertisements and display advertisements; and

(3) "Roll printing" means the application of words, designs and pictures to a substrate usually by means of a series of rolls each with only partial coverage.

(c) Those processes using packaging rotogravure, publication rotogravure, or

flexographic printing shall be subject to the equivalent one of the following:

(1) Each ink, as it is applied to the substrate, less water and non-volatile organic compounds, shall contain no more than 40% by volume of VOCs;

(2) The volatile fraction of each ink, as it is applied to the substrate, shall contain no more than 25.0% by volume of VOCs and at least 75.0% by volume of water and non-volatile organic compounds; or

(3) The owner or operator of such processes installs and operates:

a. A carbon adsorption system which reduces the rate of VOC emissions delivered from the capture system to the control equipment by at least 90% by weight over the adsorption cycle or 24 hours, whichever is less; or

b. Incineration control equipment which reduces the rate of VOC emissions delivered from the capture system to the incineration inlet by at least 90% by weight.

(d) A capture system shall be used in conjunction with the emission control system selected pursuant to (c), above, and subject to the requirements of (e), below.

(e) The design and operation of a capture system installed pursuant to (d), above shall be consistent with good engineering practice and shall provide for an overall reduction in VOC emissions from each printing press of:

(1) At least 75% where a publication rotogravure process is employed;

(2) At least 65% where a packaging rotogravure process is employed; or

(3) At least 60% where a flexographic printing process is employed.

(f) As an alternative to the applicable VOC limit(s) and/or technological control standards specified in (c), (d), or (e), above, whichever requirements are applicable, rotogravure and flexographic printing operations meeting the applicability criteria of this section may satisfy the requirements of this section by:

(1) Complying with the RACT order provisions of this part; or

(2) For technological control standards, implementing (an) equivalent substitute control technique(s) in accordance with the procedures described in this part.

Env-A 1204.19 Applicability Criteria and Compliance Standards for Offset Lithographic Printing.

(a) All sources whose offset lithographic printing operations have combined TPEs during any consecutive 12-month period after December 31, 1989 which equal or exceed 50 tons of VOCs shall be subject to the provisions of this section.

(b) For the purpose of this section, the following definitions shall apply:

(1) "Alcohol substitute" means any non-alcohol additive that contains VOCs and is used in the fountain solution.

(2) "Blanket" means the intermediary surface referred to in the definition of offset lithography in Env-A 1204.03.

(3) "Cleaning solution" means any liquid used to remove ink and debris from the surfaces of the printing press and its parts.

(4) "Dampening system" means equipment used to deliver the fountain solution to the lithographic plate.

(5) "Fountain solution" means a mixture of water, volatile and non-volatile printing chemicals, and additives that maintains the quality of the printing plate and reduces the surface tension of the water so that it spreads easily across the printing surfaces. Examples of VOC additives include isopropyl alcohol, glycol ethers, and ethylene glycol.

(6) "Heatset" means any operation where heat is required to set the printing ink.

(7) "Heatset dryer" means any device used in heatset web offset lithographic printing to heat the printed substrate and to promote the evaporation of ink oils.

(8) "Non-heatset" means any operation where the printing inks are set without the use of heat. This term includes ultraviolet-cured inks.

(9) "Press" means a printing production assembly that can be made up of one or many units to produce a finished product.

(10) "Sheet-fed" means any operation where paper is fed to the press in individual sheets.

(11) "Unit", for the purpose of this section, means the smallest complete component of a printing press which is capable of printing only one color.

(12) "VOC composite partial pressure" means the sum of the partial pressures of the solvent compounds defined as VOCs.

(13) "Web", for the purpose of this section, means a continuous roll of paper used as the printing substrate.

(c) Owners and operators of offset lithographic printing presses shall comply with the control requirements described below:

(1) Cleaning solution, used for blanket and ink roller washes shall not exceed the following VOC RACT limits:

- a. Non-exempt VOC content of 30.0% by weight, as applied; or
- b. Non-exempt VOC content of 0.9 kg/per liter (7.43 lb. per gallon) of cleaning solution, as applied, with a VOC composite partial pressure of 10 mm Hg (0.19 pounds per square inch) or less at 20°C (68°F);

(2) All cleaning materials and soiled towels used for manual cleaning shall be kept in closed containers;

(3) The VOC emissions from the dryer exhaust of heatset inks:

- a. Shall be reduced by at least 90.0%, by weight, of total organics, less methane and ethane; or
- b. Shall not exceed 20 parts per million, by volume, prior to dilution; and

(4) The fountain solution:

a. Used in heatset web offset lithographic printing presses, shall be limited to one of the following:

- 1. Non-exempt VOC content of 1.6 % or less, by weight;
- 2. Non-exempt VOC content of 3.0% or less, by weight, if the fountain solution is refrigerated to a temperature below 60°F (16°C); or
- 3. Non-exempt VOC content of 5.0% or less, by weight, if the fountain solution contains no alcohol;

b. Used in sheet-fed offset lithographic facilities, shall be limited to either of the following:

- 1. Non-exempt VOC content of 5.0% or less, by weight; or
- 2. Non-exempt VOC content of 8.5% or less, by weight, if the fountain solution is refrigerated to a temperature below 60°F (16°C); and

c. Used in non-heatset web-fed offset lithographic printing

processes, including both newspaper and non-newspaper facilities, shall contain no alcohol and the concentration of total non-exempt VOCs shall not exceed 5.0%, by weight, in the final solution.

(d) As an alternative to the applicable VOC limit(s) and/or operational control standards specified in (c), above, whichever requirements are applicable, offset lithographic operations meeting the applicability criteria of this section may satisfy the requirements of this section by:

- (1) Complying with the RACT order provisions of this part; or
- (2) For operational control standards, implementing (an) equivalent substitute control technique(s) in accordance with the procedures described in this part.

Env-A 1204.20 Applicability Criteria and Compliance Standards for Fixed-Roof Tank VOL Storage.

(a) All sources with vertical fixed-roof VOL storage tanks where storage capacity exceeds 150,000 liters (40,000 gallons) shall comply with this section with the following exceptions:

- (1) Any such tank having a storage capacity between 150,000 and 1,600,000 liters (between 40,000 and 420,000 gallons), which is used to store produced crude oil and condensate prior to lease custody transfer; and
- (2) Any such tank used to store a VOL with a maximum true vapor pressure or less than 10.5 kilopascals (1.52 pounds per square inch atmospheric) under actual storage conditions, as determined by methods described API Bulletin 2517, and as verified by records maintained consistent with the provisions of Env-A 901.03.

(b) For the purpose of this section, the following definitions shall apply:

- (1) "Internal floating roof" means a cover or roof in a fixed roof tank which rests upon or is floated upon the petroleum liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and tank shell; and
- (2) "True vapor pressure" means the equilibrium partial pressure exerted by a VOL as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss From Floating Roof Tanks", second edition, Feb. 1980.

(c) An above-ground, vertical, fixed roof tank meeting the applicability criteria of this section shall use the following control techniques:

- (1) The tank shall be retrofit with an internal floating roof equipped with a closure seal, or seals, to close the space between the roof edge and tank wall;
- (2) Closure seals shall be maintained such that there are no visible holes, tears, or other openings in the seal(s) or any seal fabric or materials;
- (3) All openings, except stub drains, shall be equipped with covers, seals, or lids which shall be kept closed at all times except when in actual use;
- (4) Automatic bleeder vents shall remain closed at all times except when the roof is floated off or being landed on the roof leg supports;
- (5) Rim vents, if provided, shall be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting;
- (6) Visible inspections of the internal floating roof and its closure seal(s) through roof hatches shall be conducted at least once per month; and
- (7) A complete inspection of cover and seal shall be conducted whenever the tank is emptied for non-operational reasons or at least once per year.

(d) As an alternative to the control techniques specified in (c), above, above-ground, vertical fixed roof tanks meeting the applicability criteria of this section may satisfy the requirements of this section by either:

- (1) Complying with the RACT order provisions of this part; or
- (2) Implementing equivalent substitute control technique(s) in accordance with the procedures described in this part.

Env-A 1204.21 Applicability Criteria and Compliance Standards for External Floating Roof Tanks.

(a) All sources with external floating roof tanks where storage capacity exceeds 150,000 liters (40,000 gallons) shall comply with the requirements of this section with the following exceptions:

- (1) Any such tank having a storage capacity between 150,000 and 1,600,000 liters (between 40,000 and 420,000 gallons), which is used to store produced crude oil and condensate prior to lease custody transfer; and
- (2) Any such tank used to store a VOL with a maximum true vapor pressure of less than 10.5 kilopascals (1.52 pounds per square inch atmospheric) under actual storage conditions, as determined by methods described in API Bulletin 2517, and as verified by records maintained



consistent with the provisions of Env-A 901.03;

(3) Any such tank used to store waxy, heavy-pour crude oil;

(4) Any such tank used to store VOL which:

a. Has a maximum true vapor pressure of less than 27.6 kPa (4.0 psia);

b. Is of welded construction; and

c. Was equipped with one of the following prior to the effective date of the applicable rule:

1. A metallic shoe seal;

2. A liquid-mounted foam seal;

3. A liquid-mounted liquid-filled type seal; or

4. An EPA-approved closure equipment of demonstrated equivalence; or

(5) Any such tank that:

a. Is of welded construction; and

b. Was equipped with one of the following prior to the effective date of the applicable rule:

1. A metallic-type shoe primary seal; and

2. A shoe mounted secondary seal.

(b) For the purpose of this section, the following definitions shall apply:

(1) "Liquid-mounted seal" means a primary seal mounted around the circumference of the cylindrical tank in continuous contact with the liquid between the tank wall and the floating roof;

(2) "Rim-mounted secondary seals" means a continuous seal extending from the floating roof to the tank wall;

(3) "Shoe-mounted secondary seal" means a secondary seal that extends circumferentially from the top of the shoe seal to the tank wall;

(4) "Shoe seal" means a seal consisting of a metal sheet connected by braces to the floating roof and held tight against the wall of a vertical tank

by springs or weighted levers;

(5) “Vapor-mounted seal” means a primary seal mounted so there is an annular vapor space underneath the seal, which space is bounded by the bottom of the primary seal, the tank wall, the liquid surface, and the floating roof; and

(6) “Waxy, heavy-pour crude oil” means a crude oil with a pour point of 10°C (50°F) or higher as determined by the American Society for Testing and Materials Standard D 97 - 93, “Test for Pour Point of Petroleum Oils”.

(c) An external floating roof tank meeting the applicability criteria of this section shall use the following VOC control techniques:

(1) The tank shall be fitted with:

a. A rim-mounted secondary seal; or

b. A closure or other device that:

1. Controls VOC emissions with an effectiveness equal to or greater than a rim-mounted secondary seal, and

2. Is approved by the EPA Administrator as a state implementation plan or federal implementation plan revision;

(2) All seal closure equipment shall be maintained such that there are no visible holes, tears or other openings in the seal(s) or seal fabric;

(3) The seal(s) shall remain intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall;

(4) For floating roofs equipped with vapor-mounted primary seals, the accumulated area of gaps exceeding 0.32 cm (0.125 in.) in width between the secondary seal and the tank wall shall not exceed 21.2 sq. cm. per m. (1.0 sq. in. per ft.) of tank diameter, as determined by the method referenced in (d) of this section;

(5) All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves shall be equipped with covers, seals, or lids in the closed position, except when the openings are in actual use, and shall have projections into the tank that remain below the liquid surface at all times;

(6) Automatic bleeder vents shall remain closed at all times except when

the roof is being floated off or being landed on the roof leg supports;

(7) Rim vents shall be set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting;

(8) Emergency roof drains shall be provided with slotted membrane fabric covers or equivalent covers which cover at least 90% of the area of the opening;

(9) Inspections in accordance with the provisions of Env-A 803.06 (a) shall be performed semi-annually to ensure compliance with (c)(2), (3) and (5) of this section; and

(10) The secondary seal gap shall be measured annually in accordance with (c)(4) of this section and Env-A 803.06 when the floating roof is equipped with a vapor-mounted primary seal.

(d) Compliance with (c)(4) of this section shall be determined by:

(1) Physically measuring the length and width of all gaps around the entire circumference of the secondary seal in each place where a 0.32 cm (0.125 in.) uniform diameter probe passes freely, without forcing or binding against the seal, between the seal and the tank wall; and

(2) Summing the area of the individual gaps.

(e) As an alternative to the control techniques specified in (c), above, external floating roof tanks meeting the applicability criteria of this section may satisfy the requirements of this section by either:

(1) Complying with the RACT order provisions of this part; or

(2) Implementing (an) equivalent substitute control technique (s) in accordance with the procedures described in this part.

Env-A 1204.22 Applicability Criteria and Compliance Standards for Bulk Gasoline Loading Terminals.

(a) Any bulk gasoline loading terminal meeting the definitional criteria of Env-A 1204.03 as of January 1, 1990 shall comply with the requirements of this section.

(b) Bulk gasoline terminal operations shall use the following control techniques:

(1) VOC vapor emitted from tank truck loading operations at a bulk gasoline terminal shall be collected and controlled by equipment limiting the total non-exempt VOC emission rate from the controlled operations over any 1-hour period to 80 mg of VOC per liter (0.08 ounces per cubic foot) of gasoline loaded;

(2) All equipment such as pumps, tanks, couplings, hoses, and seals, used in loading gasoline trucks and controlling VOC emissions during loading, shall be maintained in leak tight condition, as determined through test and maintenance procedures specified in the following document published by EPA:

EVALUATION OF VAPOR LEAKS AND DEVELOPMENT OF  
MONITORING PROCEDURES FOR GASOLINE TANK  
TRUCKS AND VAPOR PIPING

Document number EPA-450/3-79 -018

Office of Air Quality Planning and Standards

U. S. Environmental Protection Agency

Research Triangle Park, NC 27711

April, 1979;

(3) The bulk gasoline loading terminal shall be equipped with a vapor control system, capable of complying with (b)(1), above, and consisting of one of the following:

- a. An adsorber or condensation system which processes and recovers at least 90% by weight of all vapors and gases from the devices being controlled;
- b. A vapor collection system which directs all vapors to a fuel gas system and destroys at least 90% by weight of all vapors and gases from the devices being controlled; or
- c. A control system demonstrated to have control efficiency equivalent to or greater than a. or b. and approved by the director in accordance with the procedures of Env-A 807.01;

(4) All displaced vapors and gases shall be vented only to the vapor control system;

(5) Operations to which (b), above, applies shall not:

- a. Allow gasoline to be discarded in sewers or stored in open containers or handled in any manner that would result in evaporation; or
- b. Allow the pressure in the vapor collection system to exceed the tank truck or trailer pressure relief settings;

(6) Loading of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline trucks, during which the terminal owner or operator shall:

- a. Obtain the vapor tightness documentation from the tank truck

driver for each gasoline tank truck that is to be loaded at the bulk gasoline terminal loading rack;

b. Require the tank identification number to be recorded as each gasoline tank truck is loaded at the terminal;

c. Cross-check each tank identification number obtained in (6)b., above, with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded;

d. Notify the owner or operator of each non-vapor-tight gasoline tank truck loaded at the bulk gasoline terminal loading rack within 3 weeks after the loading has occurred that the truck is not vapor tight; and

e. Develop and follow procedures to assure that no gasoline tank truck deemed to be non-vapor-tight under clause(s) (6)a., (6)b. and (6)c., above, will be reloaded until vapor tightness documentation for that tank is obtained;

(7) The terminal owner or operator shall take measures to ensure that:

a. Loadings of gasoline tank trucks at the bulk gasoline terminal loading rack are made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system; and

b. The vapor collection systems or the terminal and tank truck are connected at the bulk gasoline tank truck at the bulk gasoline terminal loading racks during each loading;

(8) The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 Pa, equivalent to 0.65 psi or 18 in. of water, during product loading. Measurement of the gauge pressure shall be as follows:

a. A pressure measuring instrument, such as a liquid manometer or equivalent, capable of measuring up 500 mm mercury (20 in. water) gauge pressure, with a precision of  $\pm 2.5$  mm mercury ( $\pm 20$  in. water) shall be calibrated and installed.

b. The pressure measuring instrument shall be connected to a pressure tap in the vapor collection system or the terminal, located as close as possible to the connection with the gasoline tank truck.

c. During the performance test, gauge pressures shall be recorded at least once for each loading position according to the following procedure:

1. The pressure shall be recorded every 5 minutes during the loading of a gasoline tank; and
2. The highest instantaneous pressure that occurs during each loading shall be recorded;

(9) No pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 4500 Pa, or 0.65 psi;

(10) At least once each calendar month, the vapor collection system, vapor control system, and each loading rack handling gasoline shall be inspected for total liquid or vapor organic compound leaks during the loading of gasoline tank trucks. Visual, sound or odor detection methods shall be acceptable;

(11) Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected; and

(12) Loading of outgoing gasoline tank trucks shall be restricted to the use or submerged fill.

(c) As an alternative to the control techniques specified in (b), above, bulk gasoline loading terminals meeting the definitional criteria of Env-A 1204.03 may satisfy the requirements of this section by either:

(1) Complying with the RACT order provisions of this part; or

(2) Implementing (an) equivalent substitute control technique(s) in accordance with the procedures described in this part.

Env-A 1204.23 Applicability Criteria and Compliance Standards for Bulk Gasoline Plants.

(a) Any source with a bulk gasoline plant meeting the definitional criteria of Env-A 1204.03 as of January 1, 1990 shall comply with the requirements of this section.

(b) For the purpose of this section, "Stage I vapor balance systems" means a closed system that allows the transfer or balancing of vapors, displaced during the loading or unloading of gasoline at a bulk gasoline plant, from the tank being loaded to the tank being unloaded.

(c) Bulk gasoline plants shall use the VOC control techniques specified below, depending on the facility's storage capacity or average daily throughput:

(1) All bulk gasoline plants, regardless of storage capacity or average daily throughput, shall use the following control techniques:

- a. Filling of storage tanks shall be restricted to the use of submerged fill;
- b. Loading of outgoing gasoline tank trucks shall be restricted to the use of submerged fill; and
- c. The bulk plant owner or operator and the owner or operator of each tank truck engaged in transfer operations at the bulk plant shall:
  - 1. Observe all transfer operations involving the subject tank truck; and
  - 2. Discontinue transfer immediately upon the observation of any vapor or liquid leaks associated with the transfer operation.

(2) Any bulk gasoline plant having an average daily throughput of 15,000 liters (4,000 gallons) or more based on any consecutive 30-day period during the ozone season for the calendar year 1989 or any subsequent year shall be equipped with the following VOC control equipment:

- a. A Stage I vapor balance system between each incoming gasoline tank truck and any gasoline storage tank having a capacity or more than 2,082 liters (550 gallons); and
- b. A Stage I vapor balance system between each outgoing gasoline tank truck and any gasoline storage tank having a capacity of more than 2,082 liters (550 gallons).

(3) All Stage I vapor balance systems installed pursuant to (2), above, shall be as follows:

- a. All Stage I vapor balance systems installed pursuant to (2)a., above, shall be equipped with line fittings that:
  - 1. Are vapor-tight, and
  - 2. Automatically close upon disconnection
- b. All Stage I vapor balance systems installed pursuant to (2)b., above, shall be designed to prevent any transfer of collected vapors between loading racks; and

(4) The owner or operator of any bulk gasoline plant having an average daily throughput of 15,000 liters (4,000 gallons) or more based on any consecutive 30-day period during the ozone season for the calendar year 1989 or any subsequent year shall ensure that the following VOC control

procedures are observed during all transfer and storage operations:

- a. The Stage I vapor balance system required in (2), above, shall remain connected between the tank truck and storage tank;
- b. For storage tanks with a capacity of more than 2,082 liters (550 gallons), tank openings, including inspection hatches and gauging and sampling devices, shall remain vapor tight when not in use;
- c. The gasoline tank truck compartment hatch cover shall remain closed during product transfer;
- d. Gauge pressure shall not:
  1. Exceed 450 millimeters (18 inches) of water in the gasoline tank truck; or
  2. Exceed 150 millimeters (5.9 inches) of water in the vapor balance system vacuum during product transfer operations;
- e. Compliance with (c)(4)d., above, shall be determined by means of a pressure measuring device, such as a liquid manometer, magnehelic gauge, or equivalent instrument, as follows:
  1. Said device shall be capable of measuring 500 mm (20 in.) of water gauge pressure with a precision of  $\pm 2.5$  mm ( $\pm 0.098$  in.);
  2. Said device shall be calibrated and installed on the bulk gasoline plant vapor balance system at a pressure tap which is located as close as possible to the connection with the gasoline tank truck.
- f. No pressure vacuum relief valve in the bulk gasoline plant vapor balance system shall begin to open at:
  1. A system pressure of less than 450 millimeters (18 inches) of water; or
  2. A vacuum of less than 150 millimeters (5.9 inches) of water;
- g. Loading of liquid product into gasoline tank trucks shall be limited to vapor-tight tank trucks; and
- h. At least once each calendar month, the vapor balance systems required by (2) and each loading rack used in loading gasoline tank



trucks shall be inspected for liquid or vapor leaks during product transfer operations. Visual, sound or odor detection methods shall be acceptable; and

i. Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected.

(d) As an alternative to the control techniques and equipment specified in (c), above, bulk plants meeting the definitional criteria of Env-A 1204.03 may satisfy the requirements of this section by:

(1) Complying with the RACT order provisions of this part; or

(2) Implementing (an) equivalent substitute control technique(s) in accordance with the procedures described in this part.

Env-A 1204.24 Applicability Criteria and Compliance Standards for Petroleum Refineries.

(a) All petroleum refinery operations with any vacuum-producing systems, wastewater separators, or process unit turnarounds at the source, except segregated stormwater runoff drain systems or non-contact cooling water systems, shall be subject to the provisions of this section.

(b) For the purpose of this section, the following definitions shall apply:

(1) “Accumulator” means the reservoir of a condensing unit receiving the condensate from the condenser;

(2) “Condenser” means any heat transfer device used to liquefy vapors by removing their latent heats of vaporization. This term includes, but is not limited to, shell and tube, coil, surface, or contact condensers;

(3) “Firebox” means the chamber or compartment of a boiler or furnace in which materials are burned but shall not mean the combustion chamber of an incinerator;

(4) “Forebays” mean the primary sections of a wastewater separator;

(5) “Hot well” means the reservoir of a condensing unit receiving the warm condensate from the condenser;

(6) “Refinery fuel gas” means any gas which is generated by a petroleum refinery process unit and which is combusted, including any gaseous mixture of natural gas and fuel gas;

(7) “Turnaround” means the procedure of shutting a refinery unit down after a run to do necessary maintenance and repair work and putting the

unit back on stream;

(8) "Vacuum producing system" means any reciprocating, rotary, or centrifugal blower or compressor, or any jet ejector or device that takes suction from a pressure below atmospheric and discharges against atmospheric pressure;

(9) "Refinery vapor recovery system" means a system that prevents release to the atmosphere of no less than 90% by weight of organic compounds emitted during the operation of any transfer, storage, or process device; and

(10) "Wastewater separator" means any device or piece of equipment which utilizes the difference in density between oil and water to remove oil and associated chemicals from water, or any device, such as a flocculation tank or clarifier, which removes petroleum derived compounds from wastewater.

(c) Those processes involved in the production of gasoline, kerosene, distillate and residual fuels, or other products through distillation, cracking, extraction, or reforming of petroleum derivatives, shall control the emissions from vacuum producing systems, wastewater separators, and process unit turnarounds using the techniques specified below:

(1) Vacuum producing system VOC emissions from condensers, hot wells and accumulators shall be:

- a. Piped to a firebox or incinerator; or
- b. Compressed and added to refinery fuel gas;

(2) Wastewater separators, including forebays, shall be:

- a. Covered and sealed at all times except during maintenance and repair; and
- b. Equipped with lids or seals kept in the closed position at all times except when in actual use;

(3) Process unit turnarounds shall provide for the depressurization venting of a process unit or vessel to a refinery vapor recovery system, flare, or firebox, until internal pressures are less than 136 kilopascals (19.7 psia); and

(4) All equipment such as pumps, tanks, valves and seals used in the processing of petroleum and its derivatives, shall be maintained in leak tight condition as assured through test and maintenance procedures referenced in Env-A 803.07.

(d) As an alternative to the control techniques specified in (c), above, petroleum refineries meeting the applicability criteria of this section may satisfy the requirements of this section by:

- (1) Complying with the RACT order provisions of this part; or
- (2) Implementing (an) equivalent substitute control technique(s) in accordance with the procedures described in this part.

Env-A 1204.25 Applicability Criteria and Compliance Standards for Cutback and Emulsified Asphalt.

(a) Any source using cut-back or emulsified asphalt in the paving of public roads or highways shall comply with the requirements of this section.

(b) For the purpose of this section, the following definitions shall apply:

- (1) “Medium Curing Cutback Asphalt” means a material which meets the specifications of the American Association of State Highway and Transportation Officials (AASHTO) designation M82-75 (1993); and
- (2) “Penetrating Prime Coat” means an application of low-viscosity liquid asphalt to an absorbent surface used to prepare an untreated base for an asphalt surface.

(c) Cutback asphalt shall not be used in the paving and maintenance of public roads and highway during the months of June through September with the following exceptions:

- (1) The use of medium curing cutback asphalts solely as penetrating primecoat for aggregate bases prior to paving;
- (2) The use of medium curing cutback asphalts for the manufacture of long-term storage or stockpiling of patching mixes used in pavement maintenance; or
- (3) The use of cutback asphalts for which the user can demonstrate, in accordance with (d), below, that minimal emissions shall occur under conditions of normal use.

(d) For cutback asphalt users seeking application permits during the months of June through September, an acceptable demonstration of minimal emissions shall be the submittal of distillation test data in accordance with ASTM Method D-402, Distillation of Cutback Asphalt Products, showing that less than 5% of the total solvent has evaporated up to and including 260°C (500°F) .

(e) Emulsified asphalt used in the paving and maintenance of public roads and highways shall contain no petroleum solvents except for uses and with maximum

solvent contents (MSC's) as follows:

- (1) For use as seal coats, the MSC shall be 3%;
  - (2) For use as chip seals when dusty or dirty aggregate is used, the MSC shall be 3% ;
  - (3) For use as seat coats or chip seals when good particle coating cannot be attained with emulsions containing 3% or less solvent, by weight, when tested according to the American Society for Testing Materials (ASTM) D-244-89 "Standard Test Methods for Emulsified Asphalts", Coatability Test, Sections 52 through 57, by the New Hampshire department of transportation (NHDOT) or an independently owned laboratory designated by the NHDOT, the MSC shall be 5% ;
  - (4) For use as mixing with open graded aggregate that is not well washed, the MSC shall be 8% ; or
  - (5) For use as mixing with dense graded aggregate, the MSC shall be 12%.
- (f) As an alternative to the control techniques specified in (c) and (e), above, whichever is applicable, cutback and emulsified asphalt paving operations meeting the applicability criteria of this section may satisfy the requirements of this section by:
- (1) Complying with the RACT order provisions of this part; or
  - (2) Implementing (an) equivalent substitute control technique(s) in accordance with the procedures described in this part.

Env-A 1204.26 Applicability Criteria and Compliance Standards for Solvent Metal Cleaning.

- (a) Any source whose solvent metal cleaning operations have combined actual emissions of 5 tons or more of non-exempt VOCs during any consecutive 12-month period after December 31, 1989 shall be subject to the provisions of this section.
- (b) For the purpose of this section, following definitions shall apply:
  - (1) "Freeboard height" means:
    - a. For a cold cleaner, the distance from the liquid solvent level in the degreaser tank to the lip of the tank;
    - b. For an open top vapor degreaser tank, the distance from the solvent vapor level in the tank during idling to the lip of the tank;

- c. For a conveyORIZED cold degreaser, the distance from the liquid solvent level to the bottom of the entrance or exit opening, whichever is lower; and
- d. For a conveyORIZED vapor degreaser, the distance from the vapor level to the bottom of the entrance or exit opening, whichever is lower.

(2) "Freeboard ratio" means a ratio of the freeboard height to the smallest interior dimension, such as length or width;

(3) "Refrigerated chiller" means a device which is mounted above the water jacket and the primary condenser coils, consisting of secondary coils which carry a refrigerant to provide a chilled air blanket above the solvent vapor to reduce emissions from the degreaser bath.

(c) Batch solvent metal cold cleaning processes shall be controlled using the control techniques, equipment and operating requirements described below:

(1) Control equipment shall include the following:

a. A tank cover that is easily operated with one hand; if the solvent:

- 1. Has a true vapor pressure greater than 15 mm mercury (0.3 lb/sq. inch) measured at 38°C (100°F) by the procedures of ASTM D323-89;
- 2. Is agitated while functional; or
- 3. Is heated while functional;

b. If the solvent volatility is greater than 4.3 kilopascals (33 millimeters of mercury or 0.6 pounds per square inch) measured at 38°C (100°F), or if the solvent is heated above 50°C (120°F), one of the following control techniques:

- 1. An internally mounted drainage device that operates such that parts to be cleaned are enclosed under the cover while draining, except that the drainage device may be external for applications where an internal type cannot fit into the cleaning system;
- 2. A freeboard height that gives a freeboard ratio greater than or equal to 0.7; or
- 3. A water cover at least 2.54 cm. (1 in.) deep, where the solvent is insoluble in and heavier than water;

- c. If a solvent spray is used, the spray nozzle shall be capable of delivering a cohesive fluid stream, rather than a fine, atomized or shower type spray, operated according to (c)(2)f., below; and
- d. A permanent, legible, conspicuous label, summarizing the operating requirements;

(2) Operating requirements shall be as follows:

- a. Waste solvent shall be stored only in covered containers;
- b. The degreaser cover shall be closed whenever parts in the cleaner are not being handled manually;
- c. Cleaned parts shall be drained for at least 15 seconds or until dripping ceases, whichever is longer;
- d. Solvent leaks shall be repaired immediately or the degreaser shall be shut down;
- e. Drafts across the top of each cold cleaning unit shall be minimized;
- f. Where a solvent spray is used, such spraying shall be:
  - 1. Operated at a pressure which does not exceed 10 pounds per square inch as measured at the pump outlet, and as determined by ASTM methods or (an) equivalent method(s) approved by the director in accordance with the procedures of Env-A 807.01; and
  - 2. Performed only within the confines of the degreasing unit.

(d) Open top vapor degreasers shall be controlled using the control system described below:

(1) Control equipment shall consist of the following:

- a. A cover that can be opened and closed easily without disturbing the vapor zone. If the open top vapor degreaser is equipped with a lip exhaust, the cover shall be located below the lip exhausting;
- b. Safety switches, as follows:
  - 1. Equipment preventing heat input to the sump when the condenser coolant is not circulating or when the liquid solvent level drops down to the height of the sump heater

coils;

2. Equipment preventing spraying outside the vapor level;  
and

3. Equipment that shuts off the sump heat if the upper  
vapor level rises above the height of the primary  
condenser;

c. At least one of the following major control techniques:

1. A powered or mechanically assisted cover if:

(i) The freeboard ratio is greater or equal to 0.75,  
and

(ii) The degreaser air/vapor interface opening is  
greater than 1 m<sup>2</sup> (10.8 ft<sup>2</sup>);

2. An enclosed design, such as a cover or door which  
opens only when the dry part is actually entering or exiting  
the degreaser;

3. A refrigerated chiller that is capable of maintaining the  
chilled air blanket temperature, measured at the centroid of  
the degreaser at the coldest point, at no more than 30% of  
the solvent's boiling point (°F), except for open top vapor  
degreasers with an air-vapor interface area less than 1  
square meter (10.8 square feet); or

4. A carbon adsorption system meeting the requirements of  
(d)(1)d. , below, except for open top vapor degreasers with  
an air-vapor interface area less than one square meter (10.8  
square feet);

d. All carbon adsorption systems installed pursuant to (d)(1)c.4,  
above, shall comply with the following operational requirements:

1. Ventilation greater than or equal to 15 m<sup>3</sup>/min per m<sup>2</sup> (50  
cfm/ft<sup>2</sup>) of air/vapor area when cover is open; and

2. Exhausting less than 25 ppm solvent averaged over one  
complete adsorption cycle or 24 hours, whichever is less;

(2) Operating requirements shall be as follows:

a. The cover shall be kept closed at all times except when  
processing work through the degreaser;

b. Solvent carry-out shall be minimized by using the following measures:

1. Racking parts to allow full drainage;
2. Moving parts in and out of the degreaser at less than 3.3 m/min (11 ft/min);
3. Degreasing the work load in the vapor zone at least 30 seconds or until condensation ceases, whichever is longer;
4. Tipping out any pools of solvent on the cleaned parts before removal; and
5. Allowing parts to dry within the freeboard zone of the degreaser for at least 15 seconds or until visually dry, whichever is longer;

c. The unit shall not be used to degrease porous or absorbent materials, such as cloth, leather, wood or rope;

d. Work loads shall not occupy more than half of the degreaser's open top area;

e. The degreaser shall not be loaded to the point where the vapor level would drop more than 10 centimeters (4 inches) when the workload is removed from the vapor zone;

f. No spraying shall occur above the vapor level;

g. Solvent leaks shall be repaired immediately, or the degreaser shall be shut down;

h. The evaporation of waste solvent into the ambient air shall not exceed 20% of the weight of the waste during the process of:

1. Disposing of the waste solvent; or
2. Transferring the waste solvent to another person;

i. Waste solvent shall be stored only in closed containers;

j Exhaust ventilation shall not exceed 20 m<sup>3</sup>/min per m<sup>2</sup> (65 cfm per ft<sup>2</sup>) of degreaser open area, unless necessary to meet OSHA requirements;

k. Drafts shall be minimized across the top of each degreasing unit such that whenever the cover is open, the unit is not exposed to



drafts greater than 40 meters (131 feet) per minute, as measured between 1 and 2 meters (3.3 and 6.6 feet) upwind and at the same elevation at the tank lip;

l. Draft velocity shall be determined by the testing method prescribed in 40 CFR Part 60, Appendix A, Methods 1-4; and

m. Water shall not be visually detectable in solvent exiting the water separator; and

(3) A permanent label, summarizing operating requirements listed in (d)(2), above, shall be conspicuously displayed.

(e) Conveyorized degreasers shall be controlled using the control system described below:

(1) Control equipment shall consist of the following:

a. The degreaser shall be controlled by one of the following major control techniques:

1. Refrigerated chiller, except for conveyorized degreasers with an air/vapor interface area less than 2.0 square meters (21.6 sq. ft.);

2. Carbon adsorption system meeting the operational requirements of (e)(2)j., below, except for conveyorized degreasers with an air/vapor interface area less than 2.0 square meters (21.6 sq. ft.);

b. A drying tunnel, or another means to prevent cleaned parts from carrying out solvent liquid or vapor, such as rotating or tumbling basket.

c. Safety switches, as follows:

1. Equipment preventing heat input to the sump when the liquid solvent level drops down to the height of the sump heater coils or the condenser coolant is not circulating;

2. Equipment preventing spraying outside the vapor level; and

3. A vapor level control thermostat which shuts off the sump heat if the vapor level rises above the height of the primary condenser;

d. Entrances and exits shall silhouette work loads so that the

average clearance between parts and the edge of the degreaser opening is either less than 10 cm (4 in.) or less than 10% of the width of the opening; and

e. Covers shall be provided for closing off the entrance and exit during shut-down hours.

(2) Operating Requirements shall be as follows:

a. Exhaust ventilation shall not exceed  $20 \text{ m}^3/\text{min}$  per  $\text{m}^2$  ( $65 \text{ cfm}$  per  $\text{ft}^2$ ) of degreaser open area, unless necessary to meet OSHA requirements.

b. Drafts shall be minimized across the top of each degreasing unit such that whenever the cover is open, the unit is not exposed to drafts greater than 40 meters per minute, as measured between 1 and 2 meters upwind and at the same elevation at the tank lip.

c. Draft velocity shall be determined by the testing method prescribed in Env-A 803.10;

d. Carry-out emissions shall be minimized by:

1. Racking parts for best drainage; and

2. Maintaining vertical conveyor speed at less than  $3.3 \text{ m/min}$  ( $11 \text{ ft/min}$ );

e. The evaporation of waste solvent into the ambient air shall not exceed 20% of the weight of the waste during the process of:

1. Disposing of the waste solvent; or

2. Transferring the waste solvent to another person;

f. Waste solvent shall be stored only in covered containers;

g. Solvent leaks shall be repaired immediately, or the degreaser shall be shut down;

h. Water shall not be visibly detectable in the solvent exiting the water separator; and

i. Down-time covers shall:

1. Be placed over entrances and exits of conveyORIZED degreasers immediately after the conveyor and exhaust are shutdown; and

2. Be removed just before the conveyor and exhaust are started up.

j. All carbon adsorption systems installed pursuant to (e)(1)a.2, above, shall be subject to the following requirements:

1. Ventilation greater than or equal to 15 m<sup>3</sup>/min per m<sup>2</sup> (50 cfm/ft<sup>2</sup>) of air/vapor interface area when down-time covers are open; and

2. Exhausting less than 25 ppm of solvent by volume averaged over the length of one complete adsorption cycle or 24 hours, whichever is less.

(f) As an alternative to the control system options specified in (c), (d) or (e) above, whichever is applicable, solvent metal cleaning operations meeting the applicability criteria of this section may satisfy the requirements of this section by:

(1) Complying with the RACT order provisions of this part; or

(2) Implementing (an) equivalent substitute control technique(s) in accordance with the procedures described in this part.

Env-A 1204.27 Applicability Criteria and Compliance Options for Miscellaneous and Multicategory Stationary VOC Sources.

(a) Any miscellaneous or multicategory stationary VOC source whose combined TPEs for all processes and devices equal or exceed 50 tons of VOC in any consecutive 12-month period at any time after December 31, 1989, shall be subject to this section, except as specified in (b), below:

(b) The following processes and devices are exempt from the provisions of this section:

(1) VOC-emitting processes and devices that are subject to regulation under 40 CFR 61 or 40 CFR 63, in accordance with Env-A 600, subject to the provisions of (c), below;

(2) VOC-emitting processes and devices that have been determined to be achieving Best Available Control Technology (BACT) for VOC or the Lowest Achievable Emission Rate (LAER) for VOC imposed in a enforceable permit or license, which contains specific emission limitations and/or work practice standards for all affected VOC-emitting processes and devices and issued pursuant to federally enforceable permitting regulations approved or promulgated by the EPA;

(3) VOC-emitting processes and devices that have been determined to be

achieving RACT pursuant to a federally enforceable regulation or federally enforceable permit approved by the EPA;

(4) Incomplete combustion, except where material is heated, burned, combusted or otherwise chemically changed under oxygen-deficient conditions by design;

(5) VOC emissions from non-core activities, as listed in Env-A 1204.03;

(6) VOC emissions from minor core activities having aggregate total actual non-exempt VOC emissions of not more than 5 tons per year; and

(7) Testing and research activities excluded under Env-A 1204.02(e).

(c) VOC-emitting processes and devices unless a prior extension of compliance as provided in 40 CFR 63, Subpart D, has been granted, provided that the total non-exempt VOC emissions to the atmosphere from such equipment are reduced, on a daily basis, to a percentage equal to or greater than the percentage of hazardous air pollutants, excluding particulate matter hazardous air pollutants, required to be reduced in the applicable subpart under 40 CFR 61 or 40 CFR 63;

(d) VOC emissions from miscellaneous or multicategory stationary VOC sources meeting the applicability criteria in (a), above, and not explicitly exempted by this section shall be controlled using one of the following control options:

(1) For the purpose of this paragraph, the following definitions shall apply:

a. "Facility-wide uncontrolled emissions" means all uncontrolled VOC emissions from non-exempt core devices and processes under maximum design conditions;

b. "Facility-wide controlled emissions" means the sum of the controlled emissions from all VOC-emitting devices and processes utilizing (a) capture and control system(s).

(2) Control option 1 shall consist of the installation and operation of capture and control systems that result in facility-wide reduction in the actual uncontrolled VOC emission rate to the atmosphere, calculated on a daily basis, of at least 81%, as determined by dividing the difference between the facility-wide uncontrolled emissions and the facility-wide controlled emissions by the facility-wide uncontrolled emissions.

(3) Control option 2 shall consist of a program to reduce VOC use and emissions that is implemented such that the actual VOC emission rate does not exceed 20% of the actual VOC emission rate in calendar year 1990, or alternative year approved by the director in accordance with the procedures of (h), below, calculated on either:

- a. A mass of VOC per mass of solids basis if the affected VOC-emitting process(es) or device(s) applies surface coatings; or
- b. A mass of VOC per unit of production basis;

(4) Control option 3 shall be applicable only to the unclassifiable coating processes of RACT-applicable multicategory or miscellaneous stationary VOC sources and shall consist of:

- a. Limiting the daily weighted average non-exempt VOC emission rate from any unclassifiable coating process or device to 0.40 kg VOC/l (3.5 lb VOC/gallon) of coating, as applied, excluding water and exempt compounds, as calculated using the procedure described in Env-A 803.03; and
- b. Complying with the provisions of (d)(2), (3), (5), or (6) of this paragraph, where applicable, for the unclassifiable non-coating and classifiable components of said source;

(5) Control option 4 shall be applicable only to the classifiable components of RACT-applicable multicategory stationary VOC sources and shall consist of:

- a. Complying with the provision(s) in Env-A 1204.09 through Env-A 1204.26 for each classifiable component of a multicategory source, whichever provision(s) are relevant, irrespective of whether said component meets the relevant applicability criteria for the relevant classifiable category;
- b. Complying with the provision(s) of (d)(2), (3), (4), or (6), of this paragraph, where applicable, for the unclassifiable components of said source;
- c. Complying with the applicable provisions of Env-A 1204.09 through Env-A 1204.26, regardless of the option in this paragraph chosen by the source owner or operator, for all RACT-applicable classifiable components of said source; and

(6) Control option 5 shall consist of the implementation of a division and EPA-approvable plan, issued as a RACT order, pursuant to the provisions of Env-A 1204.05.

(e) VOC emissions from RACT-applicable classifiable processes or devices at miscellaneous stationary VOC sources meeting the applicability criteria of this section shall be subject to the control requirements of the particular sections of this part pertaining to the appropriate classifiable process(es) or device(s) .

(f) VOC emissions from RACT-applicable classifiable processes or devices at

multicategory stationary VOC sources adopting control option 4 shall be subject to the control requirements of the particular section(s) of this part pertaining to the appropriate classifiable process(es) or device(s).

(g) In accordance with the timeframe provided in Env-A 1204.28 and in addition to the information required by Env-A 1204.28, the following documentation shall be submitted to the division by the owner or operator of all applicable sources subject to the requirements of (d), above, regardless of the control option selected:

- (1) An inventory of all VOC-emitting processes or devices at the source;
- (2) An inventory of all VOC-emitting processes or devices at the source not exempt under the applicable provisions of Env-A 1204.02;
- (3) The maximum capacity of each affected VOC-emitting process or device at the source not exempt under the applicable provisions of Env-A 1204.02 to emit VOCs; and
- (4) The daily average of actual non-exempt VOCs emitted, based on solvent throughput or units of production, for each RACT-applicable VOC-emitting process or device at the source for the following time periods:
  - a. Calendar year 1990, or alternative calendar year or consecutive 12-month period approved by the director in accordance with (h), below; and
  - b. The ozone season of calendar year 1990, or alternative calendar year approved by the director in accordance with (h), below.

(h) The director shall approve an alternative time period pursuant to (d)(1) and/or (g)(4), above, for which the source provides a demonstration that the applicable time periods specified therein are unrepresentative of the operation of the facility due to one or more of the following reasons:

- (1) Add-on controls were installed during the calendar year 1990, or during the 1990 ozone season, whichever is applicable, that resulted in non-exempt VOC emission rate reductions of 40% or more of the average emission rate during the applicable time period immediately preceding the specified time period;
- (2) Process or product changes were implemented during the calendar year 1990, or during the 1990 ozone season, whichever is applicable, that resulted in non-exempt VOC emission rate reductions of 40% or more of the average emission rate during the applicable time period immediately preceding the specified time period; or

(3) The facility was not in existence or the applicable VOC-emitting processes or devices were not operational during any portion of calendar year 1990, or during any portion of the 1990 ozone season, whichever is applicable; or

(4) The facility provides other adequate demonstration that the 1990 calendar year, or the 1990 ozone season, whichever is applicable, was unrepresentative of VOC-emitting facility operations.

(i) Owners or operators of sources that adopt control option 1 shall submit to the division, in addition to the documentation required in (g), above, a detailed description of the capture and control system proposed.

(j) Owners or operators of sources that adopt control option 2 shall submit the following to the division:

(1) A calculation of the daily weighted average amount of non-exempt VOCs emitted to the atmosphere each day during which the facility or VOC-emitting process or device operated, stated in terms of either:

a. A mass of VOC emitted per quantity of solids basis, or

b. A mass of VOC emitted on a per unit of production basis; and

(2) A calculation of the average amount of non-exempt VOCs anticipated to be emitted to the atmosphere each day during which the VOC-emitting process(es) or device(s) operates upon implementation of control option 1, stated in terms of either:

a. A mass of VOC emitted per quantity of solids basis, or

b. A mass of VOC emitted on a per unit of production basis.

(k) Owners or operators of sources that adopt control option 3 shall submit to the division a calculation of the daily weighted average amount of non-exempt VOCs anticipated to be emitted to the atmosphere each day during which VOC-emitting process(es) or device(s) operate(s) upon implementation of said control option. Said daily weighted average VOC shall be stated in terms of a mass of VOC emitted per quantity of liquid coating, as applied and calculated in accordance with the procedure described in Env-A 803.03.

(1) Owners or operators of sources that adopt control option 5 shall submit to the division documentation pursuant to the RACT order process, as specified in Env-A 1204.05(c) and (d).

#### Env-A 1204.28 Compliance Plan.

(a) A VOC source meeting any of the RACT applicability criteria specified in

Env-A 1204.09 through Env-A 1204.27 and not explicitly exempted by Env-A 1204.02 shall comply with the applicable emission rate, non-exempt VOC content limits, control technology, or operation and maintenance requirements of this part, including such requirements that are contained in a RACT order, where applicable, issued by the division and approved by EPA, by the deadline specified in the federal Clean Air Act, Section 182(b)(2).

(b) Applicable facilities that have not met the requirements of this part by the date specified in (a), above, shall be in violation of the federal Clean Air Act.

(c) Facilities operating any process subject to the requirements of this part but who were not subject to these requirements prior to March 17, 1995 shall develop a plan for bringing the affected process into compliance with this part by the deadline specified in (a), above.

(d) The compliance plan submitted pursuant to (c), above, shall show:

- (1) The technique by which compliance shall be achieved, and
- (2) The major increments of progress toward compliance, including:
  - a. Completion of engineering;
  - b. Awarding of contract;
  - c. Initiation of construction;
  - d. Completion of construction; and
  - e. Final compliance with emission or control requirements of this part.

(e) Facilities that have not submitted compliance plans prior to the effective date of this rule shall submit such plans to the division within 30 days of the effective date of this rule.

(f) The division shall approve each plan or request additional information, as necessary.

(g) For sources which are subject to this part with combined TPEs of less than 100 tons per year of non-exempt VOCs in the following process or industrial categories, the effective date shall be September 15, 1995:

- (1) Metal can coating;
- (2) Paper, fabric, film and foil coating;
- (3) Vinyl and urethane substrate coating;



- (4) Metal furniture coating;
- (5) Magnet wire insulation coating;
- (6) Fixed roof tank VOL storage;
- (7) External floating roof tank VOL storage;
- (7) Bulk gasoline loading terminals;
- (8) Petroleum refineries;
- (9) Solvent metal cleaning;
- (10) Miscellaneous metal parts and products;
- (11) Rotogravure and flexographic processes;
- (12) Plastic parts coating;
- (13) Wood furniture and burial casket coating;
- (14) Offset lithography;
- (15) Metal coil coating;
- (16) Bulk gasoline plants; and
- (17) Miscellaneous and multicategory sources.

(h) The division shall evaluate all compliance plans and approve those plans which provide for meeting the requirements of this part as expeditiously as practicable.

(i) The effective date of this rule for cutback asphalt applications was July 1, 1979.

(j) The effective date of this rule for sources in the categories listed below having combined potential to emit of 100 tons per year or more of non-exempt VOCs was July 1, 1979:

- (1) Coating of metal cans;
- (2) Coating of paper, fabric, film and foil
- (3) Coating of vinyl and urethane substrates;
- (4) Coating of metal furniture;

- (5) Magnetic wire insulation coating;
- (6) Fixed roof tank VOL storage;
- (7) Bulk gasoline loading terminals;
- (8) Cutback and emulsified asphalt;
- (9) Solvent metal cleaning; and
- (10) Petroleum refineries.

(k) The effective date of this rule for sources in the categories listed below having combined potential to emit of 100 tons per year or more of non-exempt VOCs was July 1, 1981:

- (1) Miscellaneous metal parts and products; and
- (2) Rotogravure and flexographic processes, excluding specialty printing.

(l) The compliance deadline for cutback asphalt and stationary sources with the combined potential to emit of 100 tons per year or more of non-exempt VOCs was December 31, 1982, unless the source received an extension from the division until July 1, 1985. Such sources operating under permits issued by the division pursuant to this part after July 1, 1979 shall be considered to be in compliance.

## **Env-A 1205 FERROUS AND NON-FERROUS FOUNDRIES, SMELTERS, AND INVESTMENT CASTING INDUSTRIES**

Statutory Authority: RSA 125-C:4, 125-C:6, II, C:11. I, C:12, IV

Env-A 1205.01 Emission Standards for Ferrous Foundries In Operation On or Prior to May 12, 1971. No person shall cause or allow the emission of particulate matter and fumes from any ferrous foundry in operation on or prior to May 12, 1971, which shall exceed those limits specified for “Existing Devices” in Env-A 1205.08.

Env-A 1205.02 Replacement of a Ferrous Foundry Furnace. When it becomes necessary to replace a foundry furnace, with a furnace which is larger, the provisions for “New Devices” in Env-A 1205.08 shall apply upon completion of the replacement.

Env-A 1205.03 Emission Standards for Ferrous Foundries In Operation After May 12, 1971.

- (a) Any ferrous foundry placed in operation after May 12, 1971 shall be required to comply with the provisions for “New Devices” in Env-A 1205.08.
- (b) After June 15, 1974 no person shall cause, or allow new or modified ferrous

foundries to be operated in such a manner as to discharge or cause the discharge into the ambient air any gases which:

- (1) Contain particulate matter in excess of 50 milligrams per dry standard  $\text{m}^3$ , 0.022 grains dscf.

Env-A 1205.04 General Emission Standards for Non-Ferrous Foundries, Smelters, and Investment Casting Industries.

(a) No person shall cause or allow the emission of particulate matter or fumes in any 1 hour period from non-ferrous foundries, smelters or investment casting sources which shall exceed those limits specified in Env-A 1205.08, "New Devices" in operation after February 18, 1972; "Existing Devices" in operation on or prior to February 18, 1972. If any of these facilities emit particulate matter of a toxic nature, these emissions are to be further limited in accordance with Env-A 1205.09.

(b) No person shall cause or allow the emission of gaseous pollutants from non-ferrous foundries, smelters or investment casting facilities which exceed those limits specified in Env-A 1205.10.

Env-A 1205.05 Emission Standards for Secondary Lead Smelters.

(a) For the purposes of this section, "secondary lead smelter" means any source producing lead from lead bearing scrap material by smelting to the metallic form.

(b) On or after June 15, 1974, no person shall operate a new or modified secondary lead smelter in such a manner as to discharge or cause the discharge into the ambient air of any gases from the following facilities.

- (1) Blast, cupola, furnaces which contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf); or exhibit 20% opacity or greater, No. 1 on the Ringelmann Smoke Chart, or greater.

- (2) Electric furnaces (pot furnaces) which exhibit 10% opacity or greater.

(c) Where the presence of uncombined water is the only reason for failure to meet the requirements of this section, such failure shall not be a violation of this part.

Env-A 1205.06 Emission Standards for Secondary Brass and Bronze Ingot Production Plants.

(a) For the purposes of this section, "secondary brass and bronze ingot production plants" means any source producing brass or bronze ingots from copper, zinc, tin, lead, or other scrap metals.

(b) On or after June 15, 1974, no person shall operate a new or modified secondary brass and bronze ingot production plant in such a manner as to

discharge or cause the discharge into the ambient air any gases from the following facilities:

(1) Reveratory furnaces of 1,000 kg, 2,205 lb, or greater production, capacity which contains particulate matter in excess of 50 mg/dscm, 0.022 gr/dscf, or exhibit 20% opacity or greater, No. 1 on the Ringlemann Smoke Chart or greater.

(2) Electric furnaces of 1,000 kg, 2,205 lb, or greater production capacity and/or blast, cupola, furnace of 250 kg/hr, 550 lbs/hr, or greater production capacity which exhibit 10 percent opacity or greater.

(c) Where the presence of uncombined water is the only reason for failure to meet the requirements of this section such failure shall not be a violation of Env-A 1205.

Env-A 1205.07 Permit Requirements. Devices within ferrous and non-ferrous foundries, smelters, investment casting industries operated in the state may be required to have permits as established by the Statewide Permit System in Env-A 600 and may be required to pay the permit fees as established by the Permit Fee System in Env-A 700.

Env-A 1205.08      Table No. 1.

<u>Table 1</u>			
Process Weight Rate (lbs/hr)	New Devices Emission Rate (lbs/hr)	Existing Devices Emission Rate (lbs/hr)	
50	0.36	0.43	
100	0.55	0.68	
500	1.53	1.99	
1,000	2.58	3.17	
5,000	7.58	9.35	
10,000	12.0	14.85	
20,000	19.2	23.62	
60,000	40.0	49.31	
80,000	42.5	51.03	
120,000	46.3	55.55	

160,000	49.0	58.88
200,000	51.2	61.53
1,000,000	69.0	82.75
2,000,000	77.6	93.11

Interpolation of the data in Table 1 for the process weight rates up to 60,000 lbs/hr. shall be accomplished by the use of the equations:

$$E = 4.10 P^{0.67} \text{ P less than or equal to 30 tons/hr - New Devices}$$

$$E = 5.05 P^{0.67} \text{ P less than or equal to 30 tons/hr - Existing Devices}$$

Interpolation and extrapolation of the data for process weight rates in excess of 60,000 lbs./hr. shall be accomplished by use of the equations:

$$E = 55.0 P^{0.11} - 40 \text{ P greater than 30 tons/hr. -New Devices}$$

$$E = 66.0 P^{0.11} - 48 \text{ P greater than 30 tons/hr. - Existing Devices}$$

Where:

E = Emissions in pounds per hour

P = Process Weight Rate in tons per hour

Env-A 1205-09 Table No. 2.

Table 2  
EFFECTS FACTOR FOR PARTICULATE MATTER :

MATERIAL

A. All material not specifically listed here	1.0
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B. Elements and their compounds of the basic elements	
(CAS Numbers)	
(7440-36-0) Antimony	0.9
(7440-38-2) Arsenic	0.9
(7440-39-3) Barium	0.9
(7440-43-9) Cadmium	0.2
(7440-47-3) Chromium	0.2

(7440-48-4)	Cobalt	0.9
(7440-50-8)	Copper	0.2
(7440-58-6)	Hafnium	0.9
(7439-92-1)	Lead - Lead arsenate	0.3
(7580-67-8)	Lithium hydride	0.04
(7723-14-0)	Phosphorus	0.2
(7782-49-2)	Selenium	0.2
(7740-22-4)	Silver	0.1
(13494-80-9)	Tellurium	0.2
(7440-28-0)	Thallium	0.2
(7440-61-1)	Uranium (soluble)	0.1
(7440-61-1)	Uranium (insoluble)	0.4
(7440-62-2)	Vanadium	0.2
(1314-13-2)	Zinc Oxide	0.8
(1314-22-3)		
(7440-0-41-7)	Beryllium -	Not more than 10 grams of beryllium over a 24-hour period. The operator may elect to meet the ambient air concentration of 0.01 ug/m <sup>3</sup> averaged over a 30-day period and measured in the vicinity of the source.
(7439-97-6)	Mercury	Not more than 2300 grams per 24-hour period. The provisions of this subpart are applicable to those stationary sources which process mercury ore or recover mercury and to those which use mercury cathode cells to produce chlorine gas and alkali metal hydroxide.

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C. Mineral material and miscellaneous substances

Silica (crystalline) (CAS-7631-86-9) - Effects Factor -	0.4
(CAS 1332-21-4) Asbestos - As specified by the EPA in Vol 38, #66, Federal Register, Friday, April 6, 1973.	

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Env-A 1205.10 Table No. 3

Table 3

Limitations on emission of sulfur oxides (as SO<sub>2</sub>) from primary non-ferrous smelters are required in accordance with the following equations, for new devices:

Copper (CAS 7440-50-8) Smelters	$Y = 0.2x$
Zinc (CAS 7440-66-6) Smelters	$Y = 0.564x^{0.85}$
Lead (CAS 7439-92-1) Smelters	$Y = 0.98x^{0.77}$

Where :

X = Total sulfur (CAS 7704-34-9) fed to smelter (lb./hr.)

Y = Sulfur dioxide (CAS 7446-09-5) emissions (lb./hr.)

## **Part Env-A 1206 PULP AND PAPER INDUSTRY**

Statutory Authority: RSA 125-C:4; RSA 125-C:6, II

### **Env-A 1206.01 Particulate Matter Emission Standards for Kraft Mills.**

- (a) No person shall cause or allow the emission of particulate matter from kraft mill recovery furnace stacks in excess of 1.8 kilograms per ton, 4 pounds per ton, of air dried pulp.
- (b) No person shall cause or allow the emission of particulate matter from kraft mill lime kilns in excess of 0.45 kilograms per ton, 1 pound per ton, of air dried pulp.
- (c) No person shall cause or allow the emissions of particulate matter from kraft mill smelt tanks in excess of 0.23 kilograms per ton, 1-half pound per ton, of air dried pulp.

Env-A 1206.02 Particulate Matter Emission Standard for Sulfite Mills. No person shall cause or allow the emission of particulate matter from sulfite mills in excess of those limits specified in Env-A 1206.06. Particulate matter emissions from fuel burning devices as sulfite mills are regulated by Env-A 1202.

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Env-A 1206.04 Emission Standard for Paper Manufacturing. No person shall cause or allow the emission of particulate matter from paper manufacturing, as opposed to pulp manufacturing, in excess of the limits specified in Env-A 1206.06.

Env-A 1206.05 Permits Requirements. Devices within pulp and paper plants operated in the state may be required to have permits under Env-A 600 and may be required to pay the permit fees established by the Permit Fee System in Env-A 700.

Env-A 1206.06 Table No. 1.

<u>Table 1</u>
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Process Weight Rate (lbs/hr)	Devices Installed after Feb. 18, 1972 Emission Rate (lbs/hr)	Devices Installed on or prior to Feb. 18, 1972 Emission Rate (lbs/hr)
50	0.36	0.43
100	0.55	0.68
500	1.53	1.99
1,000	2.58	3.17
5,000	7.58	9.35
10,000	12.0	14.85
20,000	19.2	23.62
60,000	40.0	49.31
80,000	42.5	51.03
120,000	46.3	55.55
160,000	49.0	58.88
200,000	51.2	61.53
1,000,000	69.0	82.75
2,000,000	77.6	93.11

Interpolation of the data in Table 1 for the process weight rates up to 60,000 lbs./hr. shall be accomplished by the use of the equations:

$E = 4.10 P^{0.67}$  P less than or equal to 30 tons/hr - Devices Installed after Feb. 18, 1972.

$E = 5.05 P^{0.67}$  P less than or equal to 30 tons/hr - Devices or on Prior to Feb. 18, 1972.

Interpolation and extrapolation of the data for process weight rates in excess of 60,000 lbs./hr. shall be accomplished by use of the equations:

$E = 55.0 P^{0.11} - 40$  P greater than 30 tons/hr - Devices Installed after Feb. 18, 1972.

$E = 66.0 P^{0.11} - 48$  P greater than 30 tons/hr - Devices Installed on or Prior to Feb. 18, 1972.

Where:



E = Emissions in pounds per hour

P = Process Weight Rate in tons per hour

## **PART Env-A 1207 ASPHALT PLANTS**

Statutory Authority: RSA 125-C:4; RSA 125-C:6, II

Env-A 1207.01 Asphalt Plant Defined. For the purposes of this section, “asphalt plant” means Any asphaltic hot mix plant including all equipment utilized in the manufacture of asphaltic hot mix concrete such as burners, dryers, elevators, screens, mixers, weighing equipment, bins, and air pollution control equipment.

Env-A 1207.02 Visible Emission Standards.

(a) No person shall cause or allow the emission of smoke into the ambient air from any fuel burning devices operated in conjunction with an asphalt plant in excess of 20 percent opacity, darker in shade or appearance than that designated as No. 1 on the Ringelmann Smoke Chart.

(b) Env-A 1207.02(a) shall not apply to smoke emitted by plants existing prior to June 1, 1974 during the starting operation and 60 percent opacity, No. 3 on the Ringelmann Smoke Chart, or less shall be permitted for a period not to exceed 3 minutes per startup.

Env-A 1207.03 Particulate Matter Emission Standards from Asphalt Plants In Operation On or Prior to June 15, 1974. No person shall cause or allow particulate matter emissions from a plant into the ambient air in excess of the quantities listed in the following table:

<u>Aggregate Process Rate</u> Pounds per Hour	<u>Stack Emission Rate</u> Pounds per Hour
10,000	10
20,000	16
30,000	22
40,000	28
50,000	31
100,000	33
200,000	37
300,000	40
400,000	43

500,000 and above	47
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For a process weight between any 2 consecutive process weights stated in this table, the emission limitation shall be determined by interpolation.

Env-A 1207.04 Particulate Matter Emission Standards from Asphalt Plants In Operation After June 15, 1974. No person shall cause or allow the operation of a plant in such a manner as to:

- (a) Emit particulate matter in excess of 90 milligrams per dry normal cubic meter, 0.04 gr/dscf;
- (b) Exhibit 20% opacity or greater, No. 1 on the Ringelmann Smoke Chart;
- (c) Where the presence of uncombined water is the only reason for failure to meet the requirements of this section, such failure shall not be a violation of this Part Env-A 1207.

Env-A 1207.05 Total Emission Measured. When a plant is equipped with more than 1 stack the emission rate shall be based on the total emissions from all stacks.

Env-A 1207.06 Fugitive Emission Control System Required. No person shall cause or allow a plant to operate that is not equipped with a fugitive emission control system operated and maintained in such a manner as to prevent the emission of particulate matter from any point other than the stack outlet. Overflow chutes shall be exempt from this section.

Env-A 1207.07 Fugitive Dust Control Within Plant Premise. The plant owner or operator shall control the fugitive dust from vehicular movement over access roads to, from, and within the plant premises by means such as paving, oiling, or wetting. Good operating practices shall be maintained at all times relative to stockpiling, screen changing, and general maintenance.

Env-A 1207.08 Data Requested by Division. At such time as the division may request, the person owning or operating the plant shall submit all data on type, sizing, and quantity of the aggregates used, and hours of plant operation.

Env-A 1207.09 Permit Requirements.

Statutory Authority: RSA 125-C:11, I; RSA 125-C:12, IV

- (a) Devices within asphalt plants operated in the state may be required to have permits under Env-A 600 and may be required to pay the permit fees as established by the Permit Fee System Env-A 700.

## **PART Env-A 1208 SAND AND GRAVEL, CEMENT AND CONCRETE**

## INDUSTRIES

Statutory Authority: RSA 125-C:4; RSA 125-C:6, II

Env-A 1208.01 Emission Standard for Sand and Gravel Sources. No person shall cause or allow a sand and gravel source to operate which is not equipped with a fugitive emission control system operated and maintained in such a manner as to control the emission of particulate matter. Emissions shall be limited to a 20 percent opacity, Ringlemann Smoke Chart No. 1, at crushers, transfer points and screens.

Env-A 1208.02 Emission Standard for Cement and Concrete Sources. No person shall cause or allow the operation of a source for the cement, ready mix concrete, or cement block industry in such a manner as to permit visible emission in excess of 20 percent opacity, No. 1 on the Ringlemann Smoke Chart.

Env-A 1208.03 Emission Standards for Portland Cement Plants.

(a) For the purposes of this section, "Portland Cement Plant" shall include any source manufacturing Portland Cement by either the wet or dry process.

(b) No person shall cause or allow the operation of a Portland Cement Plant in such a manner as to permit particulate emissions in excess of the following:

(1) 0.15 kg per metric ton 0.03 lbs., from the kiln per ton of feed to the kiln 2 hour average;

(2) 0.050 kg per metric ton, 0.10 lbs., from the clinker cooler per ton of feed to the kiln 2 hour average;

(c) There shall be no visible emissions from individual devices within the plant that exceed 10 percent opacity.

Env-A 1208.04 Dust Control Within Source Premises. The source owner or operator shall control the dust from vehicular movement over access roads to, from, and within the source premises by means such as paving, oiling, or wetting. Good operating practices shall be maintained at all times relative to stockpiling, screen changing, and general maintenance.

Env-A 1208.05 Transportation of Scatterable Material On Public Ways. No person shall cause or allow the transportation of scatterable material on any public way unless covered to prevent scattering or eroding by wind, apparent wind, or weather.

Env-A 1208.6 Permit Requirements. Devices within sand and gravel, cement and concrete sources operated in the state may be required to have permits under Env-A 600 and may be required to pay the permit fees as established by the Permit Fee System Env-A 700.